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THESIS

**SYSTEMS ENGINEERING TALENT MANAGEMENT
AT NAVAL INFORMATION WARFARE CENTER
(NIWC) ATLANTIC**

by

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September 2022

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**SYSTEMS ENGINEERING TALENT MANAGEMENT AT NAVAL
INFORMATION WARFARE CENTER (NIWC) ATLANTIC**

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ABSTRACT

This thesis analyzes challenges that Naval Information Warfare Center Atlantic (NIWC Atlantic) systems engineers face when they are assigned to Outside Continental United States (OCONUS) tours. These systems engineers are in overseas locations via Permanent Change of Station (PCS) travel orders for durations of time ranging from three to five years. This employee rotation creates professional systems engineering challenges that are accelerated from other existing management challenges found CONUS, such as resource planning and employee development. Utilizing an empirical approach, this study researches, defines and develops methods to mitigate these challenges using Competency Development Model (CDM) based assessments within talent management methodologies. In order to support opportunities for these systems engineers while on their OCONUS tour, a strategy is developed to continue their career progression, while continually meeting the needs of the command's customers while accommodating personnel rotations. This analysis utilizes the NIWC Atlantic Overseas Engineering Competency structure as the basis for a case study. Through development of a Talent Management System prototype, the study identifies expected benefits that include a more efficient and effective tool to manage and plan OCONUS personnel rotations along with formalized strategies for mentorship and professional career growth of systems engineers.

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LIST OF ACRONYMS AND ABBREVIATIONS

CAO	competency aligned organization
CDM	competency development model
CEO	chief executive officer
CONUS	Continental United States
DAWIA	Defense Acquisition Workforce Improvement Act
DCPDS	Defense Civilian Personnel Data System
DIKW	data, information, knowledge, wisdom
DOD	Department of Defense
ECD	employee competency demand
FTE	full-time equivalent
HR	human resources
INCOSE	International Council on System Engineering
IPT	integrated product team
IT	information technology
IW	information warfare
JTR	Joint Travel Regulation
KSA	knowledge, skills, and abilities
LQA	living quarters allowance
MIPR	military interdepartmental purchase request
NAVWAR	Naval Information Warfare Systems Command
NIWC	Naval Information Warfare Center
NWCF	Naval Working Capital Fund
OCONUS	Outside Continental United States
PCS	permanent change of station
PD	position description
STRL	Scientific and Technology Reinvention Laboratory
SME	subject matter expert
TDY	temporary duty
TMS	talent management system

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EXECUTIVE SUMMARY

Naval Information Warfare Center Atlantic (NIWC Atlantic) is a service provider of information technology (IT) services and products to support the warfighter in winning the information war (NIWC Atlantic 2022). To develop these products and to deliver these services, NIWC Atlantic has a cadre of systems engineers in support of full life cycle systems engineering services. Also, NIWC Atlantic deploys these systems engineers (and other engineers and technicians) to overseas duty locations, where they can provide timely and direct customer engagement. However, overseas tours are time limited (typically from three to five years) for each employee. Although this increases rotational opportunities, this creates a challenge for senior leadership to ensure proper resource planning, career development and mission effectiveness. Extrapolating out, these challenges are shared by the larger (Continental United States (CONUS)) organization, but more immediate and impactful overseas. This thesis research's talent management strategies to understand how these techniques might be used to reduce the impact and likelihood of these challenges.

Talent management literature identifies four main strategies within the overarching talent management technique; attract talent, develop talent, deploy talent and retain talent (Silzer and Dowell 2010). Attracting talent includes defining your talent needs (analyzing current and future demands against current personnel), as well as executing organizational marketing activities as well as the hiring processes. Developing talent is the baselining of current talent's capabilities, typically in terms of competency development models (CDM) and knowledge, skills, and abilities. Creating a structured development plan for the workforce should be framed around employees' professional desires and the future business goals of the organization. Deploying talent is the employing of talent to mission objectives or business needs. A key talent management principle in deploying talent is effective knowledge management of the talent such that knowledge is not lost in rotations or successions. Lastly, retaining talent is critical for the longevity of the organization. Getting consistent feedback on employee's job satisfaction, and their career goals are important factors in retaining employees.

Utilizing the literature review as a framework, activity diagrams for NIWC Atlantic operations were developed for each strategy within the talent management process. Two additional use cases were added to the model for clarity; defining talent needs and analyzing talent. These models were used with the goal to create a list of system requirements for a talent management system (TMS) to be used at NIWC Atlantic. The context of the models included employees, integrated product team (IPT), candidates, and the primary perspective of the TMS, the supervisor. Using these four stakeholders, activities and inputs/outputs were mapped to each for execution of each talent management use case. The end state was a list of activities that the TMS must execute, thus defining our TMS system requirements.

Lastly, these systems requirements were used as a defining point for a TMS prototype development. The Navy's Microsoft Office 365 implementation (FlankSpeed) platform was used to create this pilot, using primarily three applications: PowerApps, Power Automate and PowerBi. PowerApps was used to create a user interface to capture employee data (such as tour duration or primary CDM assignment) and business needs (project data to include tasking, which decomposes into CDM type and duration). Lastly, the project tasks could be assigned to employees to create a mapping of resource demands and availability. Using Power Automate to export data, the tool correlated and presented information graphics in PowerBi for analysis of items such as rotational planning for personnel or identifying capability needs based on operational demands.

Talent management processes and tools can provide an immediate impact for an area that is a capability gap within NIWC Atlantic and the larger Department of Defense. Understanding what assets an organization has, how that talent perceives and aims for their future, is important knowledge to consider while architecting future business strategies. This thesis decomposed parts of the talent management process, creating activity diagrams to develop TMS systems requirements at NIWC Atlantic, and developed a prototype TMS based upon those requirements. The use and testing of this prototype has demonstrated an ability to better manage resource planning and career development goals than previously capable.

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Silzer, Robert F., and Ben Dowell, eds. 2010. Strategy-Driven Talent Management. Jossey-Bass.

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I often tell my wife, “I’m a trained computer engineer, not a trained supervisor. I don’t really know what I’m doing here.” I enjoyed learning and developing content on this subject as it helped me further develop myself as a supervisor, a career path that has provided me rewards and challenges that I didn’t see coming. I feel as if I’ve grown a bit from this position and this research.

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I. INTRODUCTION

Heraclitus' quote still holds true; "Change is the only constant in life" (King 2022). Employees retire, move locations, go back to school, get promotions, have children and change careers. In the Department of Defense (DOD), civilian employees regularly move from civil service to contractor and vice versa. For matrixed organizations like Naval Information Warfare Center (NIWC) Atlantic, where employees are assigned to competencies that support integrated product teams (IPT), professionals can regularly move from project to project as their services are needed and transferred. This movement of personnel can place a strain on the employee, first line management, projects, and the organization. Large organizations such as NIWC Atlantic must be able to plan and operate from strategic levels to maximize their realization of business objectives and reduce the risk of impact from personnel transitions. The coordination of employees must be planned to minimize impacts to product delivery.

One of the catalysts for this change is that most professionals desire to grow and advance in their careers. This advancement is accompanied by additional duties or responsibilities, but also typically comes along with increase in salary as the incentive. Individual employees are ultimately responsible for their own professional growth, however the organization they work for directly benefits from that career and has a shared interest in that employee's development. For organizations to grow and improve, priority should be placed on employee development. The organization moves forward as the employees do. Organizations should create structure for managing employees' talents, such that needs, and gaps can be assessed. Opportunities for development should be planned or created. There is a balancing act between focusing on employee development and focusing on meeting the mission or requirements of the customer, as employee development is beneficial to meeting customer needs, but can take time away from the job at hand.

In overseas permanent change of station (PCS) tours, the rotation length for civil servants is pre-determined by the Joint Travel Regulations (JTR), typically for three to five years, depending on location. This creates a perpetual rotation of employees, which provides opportunities for growth for individuals. It also contributes to challenges for

management and the organization to maintain productivity, due to loss of obtained subject knowledge in theater. Additionally, managers are required to continue with the activities involved in onboarding, orienting, training new and current employees and assisting with the transition for departing employees. The goal of this thesis will be to study resource planning and career development challenges for systems engineers, while leveraging talent management techniques as a solution methodology.

A. BACKGROUND

This research will review this balancing act of employee's development, rotation planning and resource strategies at NIWC Atlantic, specifically at the overseas locations and focused on systems engineering activities.

1. NIWC Atlantic

Naval Information Warfare Center Atlantic (NIWC Atlantic), as a subordinate organization to Navy Information Warfare Systems Command (NAVWAR), is a Navy engineering and Information Technology (IT) command that provides information warfare (IW) solutions to protect national security (NIWC Atlantic n.d.). NIWC Atlantic's vision is to win the information war. As a part of the Naval Research and Development Enterprise, rather than being funded primarily by Congressional appropriations, NIWC Atlantic is a Naval Working Capital Fund (NWCF) organization that operates primarily on funding (or sales) from other organizations. NIWC Atlantic provides a wide gamut of technology solutions including communication, network, cyber operations, intelligence, surveillance, reconnaissance, business, and information security systems. Employing approximately 5,000 government civilians and military personnel, NIWC Atlantic has locations across the eastern continental United States, as well as overseas stations in Europe and Southwest Asia.

NIWC Atlantic is a matrixed organization, which combines the benefits of a functional organization, where teams are aligned by skills (such as finance, engineering, logistics), and product focused, where teams are organized by end products (Defense Acquisition University n.d.). At NIWC Atlantic, this matrixed structure is called competency aligned organization (CAO), where employees are assigned into

competencies, which are associated with the domain of work that employee focuses on (such as Radio Frequency systems, Project Management, or Finance). The Competencies are responsible for the staffing, training, and equipping of billets, employees, and teams with the tools necessary to execute their tasking. Competencies are then rolled up with similar competencies to form tiers in the organizational structure. The employees within a competency are allocated into Integrated Product Teams (IPTs) as needed to accomplish the IT solution project tasking. The IPTs are product or customer focused. For instance, an IPT might be focused on computer networks for a particular customer. The employment of this CAO structure is such that, as projects or IPTs need resources (employees), the IPTs register a demand for a particular skillset with the corresponding competency (for example, systems engineers). Competencies respond to the demand with available employees or suggest contract avenues to meet the demand if there are no available resources. IPTs or projects are formed as needed and then dissolved when no longer required, and assets (employees) are made available returned to the competency for new tasking. As a NWCF organization, this structure continues in perpetuity, as long as funding from customers continues, or new customers are found. The leadership structure of the organization is shown in Figure 1.

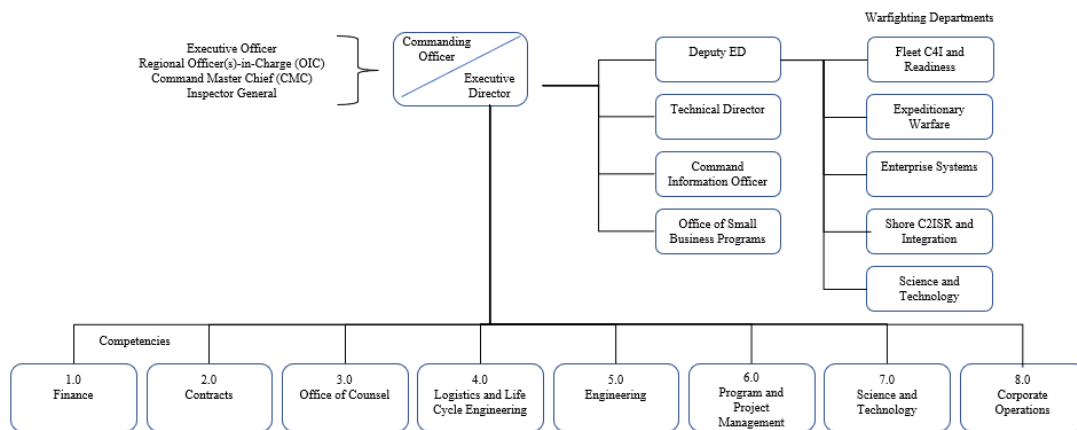


Figure 1. NIWC Atlantic Organization Structure. Adapted from NIWC Atlantic (2021).

To accomplish NIWC Atlantic’s vision, the organization has a need for and has thus acquired expertise in not only engineering, but logistics, finance, and acquisition, amongst its other competencies. As part of its engineering competency, systems engineers are utilized to provide integrated, full-life cycle IT solutions to the nation and warfighter. The systems engineering community at NIWC Atlantic makes up approximately one tenth of the organization, although systems engineers are not the only employees executing systems engineering. As the operational community’s (or warfighter’s) requirements have evolved over time, the requirements for their IT systems have grown increasingly broad and complex. To better deliver and deliver better systems that will satisfy the needs of this community, NIWC Atlantic has developed the capability to provide systems engineering services. This capability is accomplished by the government systems engineering community and industry partners at NIWC Atlantic. For NIWC Atlantic to better develop, leverage and employ this community, this paper will create and analyze the talent management processes (or lack thereof) that manage these systems engineers. With this architecture, NIWC Atlantic can focus on the key aspects of developing and employing the systems engineer to ultimately create better systems for its customers.

As a NWCF, NIWC Atlantic operates similarly to commercial non-profit industries. Mentioned previously, NIWC Atlantic operates its business from sales, typically from military interdepartmental purchase request’s (MIPR), via other organizations. Most of the funding received at NIWC Atlantic comes from other Navy or Marine Corps customers, however the ability for NIWC Atlantic to provide IT solutions amongst the wider DOD and Federal Government allows for a multitude of sources for work to be performed. NIWC Atlantic’s value proposition could be described as an acquisition command that is paired with engineering and logistical expertise and capability, able to provide turnkey solutions to the warfighter.

2. Systems Engineering

The scope of this analysis will focus on the civil servants in support of systems engineering services. To describe how this community delivers systems to its customers, we first define “systems engineering.” According to the International Council on Systems

Engineering (INCOSE), “Systems engineering (SE) is an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, and then proceeding with design synthesis and system validation while considering the complete problem: operations, cost and schedule p, performance, training and support, test, manufacturing, and disposal. SE considers both the business and the technical needs of all customers with the goal of providing a quality product that meets the user needs” (David D. Walden et al. 2015, 265). In the use case to be analyzed, the ‘engineered systems’ that NIWC Atlantic provides are the IT solutions. The community that NIWC Atlantic has developed is composed of systems engineers. These systems engineers are those that engage in these systems engineering techniques, however, more detail is needed on what makes these employees systems engineers and what functions these employees execute. This definition will allow greater return investment into these employees.

Systems can be defined as sets of parts, how those parts relate and combine to function in a way that is greater than its individual parts (Crawley, Cameron and Selva 2016). Employees that fill the role of systems engineers fit this definition of a being a system themselves. Employees have skills, duties, relationships and other forms and functions, similarly to other engineered systems. Systems architectures are the abstract description of the parts of the system and how those parts are related to each other (Crawley, Cameron and Selva 2016). We will define the system architecture for the development and employment of the systems engineer to demonstrate how NIWC Atlantic may improve on utilization and optimization of its systems engineers.

Due to the nature and capability of systems engineers, these employees can be found within each of the business (Warfighting) Departments. The job description, or Position Description (PD) as NIWC Atlantic uses it, details the specific requirements of the position. Included in the PD is the position classification, series, and grade, among other major duties, location, clearance, travel requirements and Knowledge, Skills, and Abilities (KSAs) required. The KSA’s listed in the PD are typically limited to five

examples, and are meant to be broad and used primarily for the purpose of hiring and recruitment (Walter 2013). Examples KSAs are shown in Table 1.

Table 1. Example KSAs. Adapted from Walter (2013).

KSA	Stage
Basic knowledge of technical and technical mgt processes	Entry
Knowledge of engineering/technical artifacts required by SSC Atlantic	Entry
Ability to review engineering/technical artifacts for completeness and quality	Intermediate

Due to the nature of CAO, a systems engineer may change between IPTs and projects at some regularity. When an employee changes specific assignments for tasking, that does not typically justify a change in the PD. PDs are written in a generic enough nature that allows the allocation of an employee from tasks to task without changing the details of the major duties. For instance, a PD for a chef would say “Employee prepares menu for the week” and “Employee prepares food via frying, sauteing, grilling, and/or baking.” Whether the chef is working at an Italian restaurant, or an American Barbeque restaurant is a characteristic of the role they are performing and not identified on the PD (in most cases).

PDs are static artifacts used for documentation of job duties. NIWC Atlantic has other tools to assist the employee with the specifics of their role, and how they might continue to grow in that role. For instance, NIWC Atlantic utilizes competency development models (CDMs). A competency is a knowledge, skill, or ability “which, when applied to the appropriate role, helps achieve desired results” (SHRM n.d.). A competency model refers to a collection of competencies that are needed for effective job performance” (SHRM n.d.); the model is simply a collection of competencies (KSAs) specific to roles or jobs. At NIWC Atlantic, these competency models typically align to the structural competencies that employees are assigned to (such as multimedia systems competency development model), or generalized roles (such as requirements competency development

model). The CDMs are typically arranged in tiers of Entry, Intermediate, Advanced and Expert in incrementally more challenging KSAs for each tier, along with increased year-in-service requirements.

The CDMs at NIWC Atlantic are used for several purposes. First, they establish a framework from an organizational perspective regarding what defines each level of expertise for each competency model. This exercise and development allow the Command the opportunity to define its measure for success and define a framework and ontology for employees and IPTs to work within. When a new project or IPT is stood up which requires expertise in Machine Learning, the IPT and the Competencies can communicate the personnel resource requirements and available resources using the same benchmarks. Secondly, the CDMs act as benchmarks for employees to assess their current KSAs against. This allows the employee to identify where they are strong and where they can target growth opportunities. The ability to assess against multiple CDMs gives the employee clarity on other competencies and potential for a wider breadth of educational opportunities. Lastly, the use of CDMs and the exercise of assessing employees against those CDMs allows the organization to understand its strengths and weaknesses from an organizational perspective. For instance, the command may have several systems engineers certified at the Expert Level for Requirements but know that these employees are soon to retire. This would allow the command to focus on creating opportunities for other systems engineers to advance their KSAs and train to become Expert before a gap in expertise exists. This CDM architecture is a means to understand, communicate, and leverage the current form of the architecture for NIWC Atlantic's systems engineers.

CDMs are suggested to be assessed against yearly and provide an excellent tool for defining specific requirements to gain expertise in a functional area. However, it first helps to define which functional areas are desirable to the employee. In this case, creation and utilization of Career Plans provides an overarching (long term) strategy that guides the employee for more tactical (short term) training activities, derived from the CDM assessments. Career Plans typically include career goals, preparatory activities and steps to accomplish those goals.

NIWC Atlantic utilizes the Scientific and Technology Reinvention Laboratory (STRL) personnel system for employee classification, evaluation and pay management. STRL provides the framework for defining yearly performance goals and evaluation criteria. At NIWC, employees are responsible for interim and annual self-assessments against the standards of the position held. Supervisors and employees meet twice annually to go over the employee self-assessments, customer feedback and performance appraisal. At the end of the performance period, supervisors provide numerical scoring based on the pre-established criteria, and pay incentives (bonus and salary increase) are determine based upon the combined scoring. Scientific and Technology Reinvention Laboratory is a positive performance incentive program, where those that perform well in their pay band should get financially rewarded.

3. Overseas Tours

NIWC Atlantic provides Information Warfare products and services to warfighters around the globe. Business cases for efforts overseas are assessed to determine the cost-benefit analysis in stationing civilian employees Outside the Continental United States (OCONUS), versus remaining stationed Continental United States (CONUS). Per the JTR, additional financial support is given to civilian employees Overseas, such as Living Quarters Allowance (LQA), which offsets the cost of housing for the employee, or the simple cost of moving an employee overseas. To recoup these costs, NIWC Atlantic increases the labor rates for the employees, so it is imperative that the IPT ensures the benefits of being in theater are worth the additional costs to the customer. For projects where in person presence is critical, like installations or embedded staff support, being present in theater is unavoidable and the cost-benefit analysis is completed to determine if temporary duty (TDY) travel is more cost effective. Typically, the time differential between OCONUS and CONUS plays a large determining factor in the analysis. Many customers and projects require support during the Overseas working hours, and this is best achieved when in country. When personnel are supporting an OCONUS effort from CONUS, they are typically six hours behind, which severally degrades the amount of time that can be spent working collaboratively between locations.

NIWC Atlantic having completed this analysis, currently has placed about fifty (50) civilian employees overseas at locations of primary customer presence, Rota Spain, Stuttgart Germany, Naples Italy, and Manama Bahrain. Tours in Spain, Germany and Italy are initially three years, while tours in Bahrain typically start at two years; both of which can be extended to five years. As previously mentioned, these tour lengths can create challenges to maintaining productivity. Tour extensions are dependent upon employee, supervisor and IPT all agreeing that the extension for the employee is desired. However, once an employee is in theater, has accustomed to the culture and work environment, the incentive for IPT and Supervisor is to extend the employee, as to maintain that corporate knowledge; personnel transitions take additional time away from direct project efforts.

B. MOTIVATION AND THESIS STATEMENT

Competency managers in competency aligned organizations are responsible for the resource planning and talent development activities of the organizations staff.

1. OCONUS Competency Supervisor Support

Competency supervisors in CONUS based positions typically hire to meet attrition, or for new demands as they arise. Growth from new demands is to be expected as the needs for IW products continue to be highly desirable, and attrition of employees may come from retirements or new careers. However, these changes occur slowly over time and the composition of a competency could look largely unchanged over decades. In OCONUS competencies, each person is time limited (three to five years), which means the entire competency, including supervisor, would be different after 5 years. Personnel rotations are ideally staggered over time to decrease losses in knowledge; however, this creates continuous hiring actions and the need for ample structure to support task and knowledge transition. Tooling and processes are needed to support these transitions, and development of talent management models while working towards talent management system implementation brings benefits to the OCONUS supervisor.

Competency Supervisors are responsible for assigning talent to meet IPT business demands. As projects end, or as new projects are realized (new demands from the IPT to the competency), the Competency Supervisor is responsible for applying current talent to

meet those demands or hiring new talent to meet the gap. The Competency Supervisor is then responsible for keeping track of ongoing efforts, tasking demands and availability of talent. Overseas, the demands of the IPT change rapidly as the operational communities react to ever changing geopolitical environments, and NIWC Atlantic's workforce will be required to meet those new demands.

It is an expectation of the Command and the Competencies that all employees will learn and grow over time, developing new knowledge, skills, and abilities. Competencies will lose experienced talent to retirement and competing companies, so other employees will be expected to backfill those lost capabilities and fill in those holes as needed. This creates the need for an ever-consistent learning environment, which should be fostered by the Command and Competency to ensure that those critical skillsets needed are identified, and opportunities for developing those skillsets is available. Given the short amount of time spent OCONUS, this creates the need for quick assessments and achievable development opportunities to be identified and planned.

In OCONUS tours when talent is consistently coming and going, this dynamic creates a challenge to ensure the competency is appropriately and effectively meeting the needs of the IPTs. Although technical skillsets of the departing and arriving personnel should be similar, soft skills and personalities are harder to define. Ensuring these are addressed during the assignment process is critical for the larger team's success at product delivery.

These challenges (tasking management, developing employees and rotation planning) are common occurrences that the OCONUS Competency Supervisor must plan for and address, at a higher rate than CONUS peer supervisors. However, these concerns are not exclusive to overseas positions and are representative of challenges from a CONUS competency management perspective as well.

2. Thesis Statement

This thesis will study talent management techniques in an effort to develop a solution methodology for resource planning and career development challenges of systems engineers at NIWC Atlantic.

In the context of NIWC Atlantic, resource planning is the identification, analysis, allocation, and acquisition of personnel to meet the needs of our customers. Out year financial forecasting occurs for the Command to understand expected work demands, as this can be challenging for a NWCF organization to predict on a year-to-year basis. At the lower level, competencies review work demands, specialized skillsets and staffing levels, however, there lacks a comprehensive tool to collect this information on their employees. Work demands come from the IPTs via an internal issue tracking software. Skillsets or specialized training could be found in CDM assessments, although these are independent spreadsheets for each employee, or via informal communication. Staffing levels could be found in organizational charts and the Defense Civilian Personnel Data System (DCPDS), but both of which are static and not representative of planned growth or departures. The lack of tooling to capture this information is a challenge on competency supervisors, and a missed opportunity for Command leadership to view collated data.

At NIWC Atlantic, career development is primarily structured around the CDM. Employees can set CDM levels as a career development goal (for example, plan to be Expert in 10 years). Through the assessment and review processes, a list of target KSAs are provided as growth opportunities. However, employees commonly find other developmental activities that interest them, such as technical training or certifications. Another common method for career development is the pursuit and maintenance of Defense Acquisition Workforce Improvement Act (DAWIA) certifications. DAWIA billets are provided to those that are focused on acquisition related activities (such as the procurement of goods or services). NIWC Atlantic is a turn-key service provider which engages in acquisition of services or goods in delivery of its end products to the warfighter, therefore making the DAWIA training applicable to most employees, however efforts supporting DAWIA Back-to-Basics has the intention to remove many billet designations. Again, at the competency level there exists no centralized tool to manage career development activities of the staff, creating challenges for the supervisor and potential missed opportunities for the employees.

The goal of this research effort is to investigate talent management practices and correlate these practices with existing operational processes at NIWC Atlantic. By

completing the research and comparison, this effort will establish specific system level requirements for a talent management system for use by competency supervisors (to include Overseas competencies). The end state of this effort will be a piloted tooling to support talent management OCONUS, and a review of its benefits.

C. RESEARCH METHOD

Talent Management at NIWC Atlantic should be the overarching identification, analysis, acquisition, development, and retention of staff to accomplish Command goals. However, these tasks are currently handled independently of each other and differently for each competency within the Command. As such, this thesis will review talent management literature and industry best practices towards creating a framework for what a talent management tool at NIWC Atlantic should accomplish. Utilizing empirical research, this thesis will observe the operation and experiences of Overseas competencies and systems engineers as a use case for talent management activities. Subsequently, a process model will be developed to analyze the requirements of a talent management tool at NIWC Atlantic. Upon completion of review and analysis, a talent management tool will be created and piloted. The intent of the pilot is to verify application and use of a talent management platform for systems engineers.

The success of this research will be determined by the benefits found through use of the talent management tool pilot. A review will be completed and demonstrated to NIWC Atlantic staff, while specifically applying overseas data for employees and business demands. The resulting benefits must demonstrate that a talent management implementation provides capability beyond current levels and increases efficiency in management of employee resources. The research results should lead to attract personnel more appropriately in timing and skillsets. Development of employees will show alignment with employee career plans and business demands. Deployment of personnel will react to future business demands, through succession planning. Lastly, the effort must influence employ retention through coordinated employee and supervisor engagement.

1. Expected Benefits

Creation of a talent management process model, and subsequent talent management pilot, is expected to bring meaningful benefit to both employee and supervisor. Firstly, creation of talent management processes through behavioral modeling will identify those systems requirements of the talent management system, as well as specific input and output requirements. This process will improve understanding of current resource planning and career development activities, while identifying those areas at NIWC Atlantic where a tool gap exists. Developing the framework for the tool to fill this gap, establishes the success criteria in the anticipation of a product development. Utilizing a pilot to implement some parts of this talent management tool will identify those areas of immediate impact, what parts of the process model are most critical, what elements of the pilot work and what further development efforts are needed. However, it is anticipated that this pilot and better understanding of the business process at NIWC Atlantic will increase the ability of the supervisor to manage available talent. Resource planning efforts and employee development activities should show increased efficiency.

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II. TALENT MANAGEMENT LITERATURE REVIEW

A review of available literature on talent management techniques and strategies is conducted. The research is divided into the subprocesses of talent management as a way to organize the various methods.

A. TALENT MANAGEMENT DEFINITION

Talent can be referred to as knowledge, skills or abilities of an individual person, a specific person or a group of individuals (Silzer and Dowell 2010). When refereeing to the specific person or the group of individuals as ‘talent,’ the reference is to the collective knowledge, skills, or abilities of those referenced. Talent is the greatest asset to NIWC Atlantic, and worthwhile to collectively manage. As defined by Silzer and Dowell, talent management is “an integrated set of processes, programs, and cultural norms in an organization designed and implemented to attract, develop, deploy and retain talent to achieve strategic objectives and meet future business needs.” Figure 2 shows the process as part of talent management and the order they are typically encountered in the life cycle of an employee.

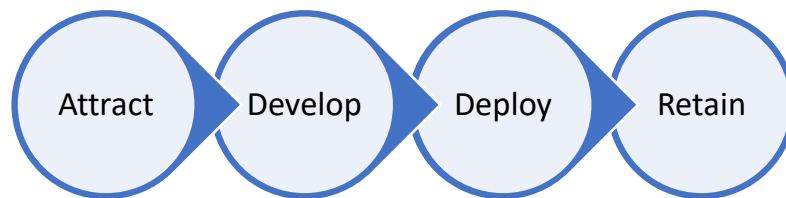


Figure 2. Talent Management Processes

Talent Management is commonly linked to Human Resources (HR) as both systems or processes are directly linked to the employee. However, there exist key differences between “traditional” HR and talent management approaches (Hall-Ellis and Taylor 2017). For instance, a Talent Management approach provides benefit to organizational

capabilities, where “traditional” HR is focused on individuals, and not the roll-up of capabilities. Also, “traditional” HR tends to provide reactive services to employees/supervisors, where a talent management approach is proactively reviewing needs and making meaningful impact to employees and supervisors.

B. ATTRACTING TALENT

Attracting talent begins with identifying the skillsets and abilities needed to be filled by target candidates. Through resource planning the gaps to existing or planned talent resources are identified, and position descriptions for needed assets developed. Consistently and routinely reviewing and assessing current talent against competency models allows an understanding of current capabilities, while structuring a path for growth that allows planned development into gap fulfillment. Once needs are established, competency supervisors are responsible for attraction and recruitment of qualified candidates. However, recruitment should be a perpetual activity, not only undertaken when resources are needed to “actively” fill jobs (U.S. Office of Personnel Management 2021). Supervisors should be consistently marketing their organizations to create a foundation of knowledge and familiarity amongst interested candidates even when hiring needs are not available. As noted in the Office of Personnel Management resource, simply posting a job opportunity announcement is not sufficient in terms of marketing to candidates. Organizations should make investments in building the reputation of their organizations, through advertising, marketing, or building the brand of the business. The brand should be a representation of the mission or vision of the organization, and advertising materials and efforts should be representative of this brand. This allows the ability for quicker and more competitive recruitments when the time for hiring is needed, as candidates will already be aware of the organization and have thought through the benefits of employment with this team. This is particularly important for overseas positions as the first question that needs to be answered by a candidate is if they and their family are willing move overseas. This question is a quick delineator between available and unavailable candidates.

Upon completion of identification, evaluation and hiring of selected candidates, onboarding should continue the realization of the businesses mission and vision. Employee

engagement and recognition of the mission/vision is challenging for onboarding of employees whom are geographically dispersed or new to the culture of the new organization (Taylor and Lee 2014). Extra time and mentorship are required in these instances, whether it is onboarding into overseas environments, or recruiting those outside of NIWC Atlantic into the organization. When combined (overseas and new to NIWC Atlantic), a cohesive team environment is required to engage the employee in the new assignment. The ramp up time for those that are new to the organization is longer than those that already understand the structure of the NIWC Atlantic working environment, so in time limited tours overseas, it is advantageous to the command to prioritize sourcing of candidates from internal above other options.

C. DEVELOPING TALENT

Developing systems engineers' talents is predicated around understanding each individual's current aptitude, skills, and abilities. By establishing this baseline, development targets can be aligned with business needs and mission requirements. Employee assessments for establishing these baselines can be employee initiated or supervisor lead. For example, the NIWC Atlantic CDM assessment and certification process, previously discussed, which is employee initiated and supervisor reviewed.

Another method is supervisor orchestrated for allocating and organizing talent in order to identify development pathways. For instance, the high potential competency model and nine-block talent grid process used by TalentGuard, Inc and chief executive officer (CEO) Linda M. Ginac (2013). In this methodology, the talent management team addresses organizational "inability to identify internal talent and develop them for key roles" (Ginac 2013), as well as creating buy-in and stakeholder engagement from management teams. This process allows the identification and visibility into key talent and provides a clear path for development investments.

The TalentGuard method begins by identifying those criteria that are prioritized for key positions (such as technical capacity, or ability to influence change). Similarly, the team then identifies the roles that are the most critical for organizational success (such as IPT Technical Lead, or Project Manager). Using these positions and critical skillsets, the

talent management team can create a ranking of high potential competencies, organized by tier, such as the example shown in Figure 3.



Figure 3. High Potential Competency Model Example. Source: Ginac (2013).

Based upon the High Potential Competency Model, several nine grid talent matrices are developed to categorize employee’s potential. First, a Succession Planning talent grid is developed, creating categories for performance and potential, as shown in Figure 4. The titles shown in this figure typically require further details in order to assist with employee categorization. Figure 5 provides the same mapping, but with more context for what qualifies an individual in each category. Ginac goes on to describe that these blocks are typically accompanied by paragraphs of definition to assist with employee mapping. Figure 6 is an example of placing employees within each grid, as well as the mapping between grids. Employee placement is based upon supervisor performance review as well as 360 assessments. A 360 review is “a professional feedback opportunity that enables a group of coworkers and managers to provide feedback about a fellow employee’s performance” (Heathfield 2020). 360 reviews provide feedback on an employee from multiple perspectives, not just direct supervisor, allowing a wider viewpoint. The between grid

mapping is meant to show succession planning avenues and options. If an employee from Future Leader moves onto another opportunity, those from Emerging Leader or High Impact Contributor would be best suited as successor.

TALENT GRID FOR SUCCESSION PLANNING

Potential Dimensions



Figure 4. Talent Grid for Succession Planning with Potential Dimensions.
Source: Ginac (2013).

TALENT DEVELOPMENT USING THE GRID

Performance Dimensions

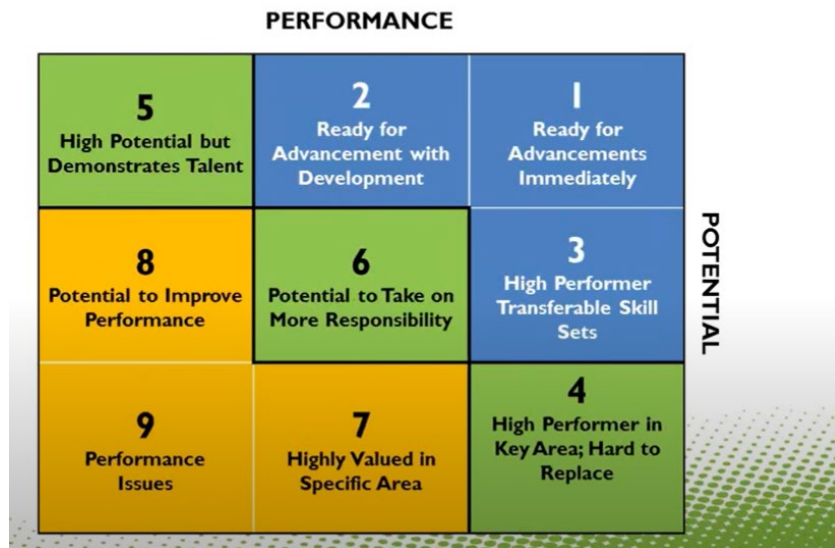


Figure 5. Talent Development Using the Grid with Performance. Source: Ginac (2013).

TALENT GRID

Plotting Employees

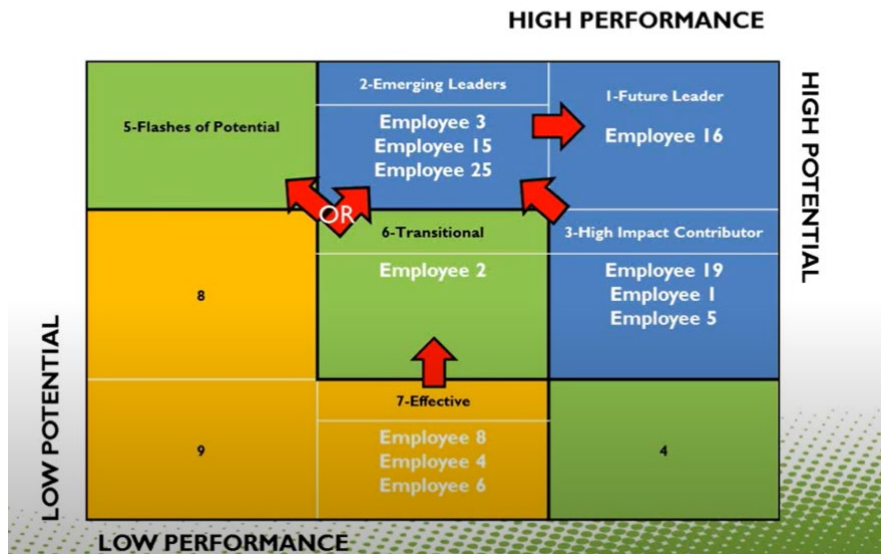


Figure 6. Talent Grid and Plotting Employees. Source: Ginac (2013).

Lastly, the amount of career development investment from the organization utilizes the nine-block talent grid as a framework. Each performance to potential mapping block is assigned a list of career development investments, such as funding percentage for training, coaching, and executive exposure. Those employees that are higher performers and demonstrate more potential, are those employees that the organization invests the most time and money in. This rationale is amplified by the criticality of the topmost performers in meeting organizational objectives, and the criticality for having suitable successors for each critical position. Figure 7 demonstrates an example mapping of talent grid to career development investments. A con to this approach is that weaker performers are not invested in. Although this approach is important for development of potential successors, it can leave underperformers with little opportunity to better themselves. In the private sector, this might be an achievable approach as underperformers could be released and/or replaced. However, in the Government sector underperformers are typically not released for their performance alone, and the organization would want to invest time and money in these individuals in an effort to improve their performance.

INVESTING IN EMPLOYEES

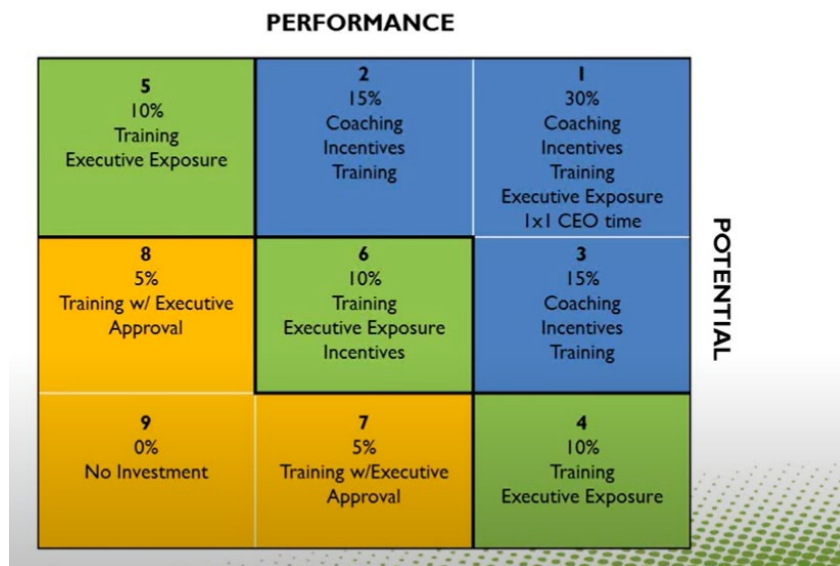


Figure 7. Career Development Employee Investment on Talent Grid. Source: Ginac (2013).

D. DEPLOYING TALENT

Deploying talent is the ultimate intent of hiring and developing employees, which enables the employees to execute the tasks desired when the hiring process began, or as demands have shifted. An employee's understanding of the tasks required is critical for success. Establishing expectations from the supervisor and customer provides targets for the employee to strive towards. The employee will then realize what is the criteria for success in their position. Understanding and agreeing to these targets are important in employee engagement efforts. Employee engagement is a direct driver for increasing employee performance and retention (Corporate Leadership Council 2004). Per the Corporate Leadership Council surveys, "employees who are most committed perform 20% better and are 87% less likely to leave the organization" (Corporate Leadership Council 2004, 4). Employee engagement is defined as "the extent to which employees commit to something or someone in their organization, how hard employees work, and how long they stay as a result of that commitment" (Corporate Leadership Council 2004, 5).

Figure 8 demonstrates the danger when employees are engaged poorly with the organization. In these cases, employees demonstrate deficient performance and have a higher risk of leaving the team. Ideally these employees would be engaged by their supervisor or direct team in order to bring them to higher levels of commitment to the organization's goals. Those employees at the top levels of engagement provide extra value to the organization, going beyond expectations in support of not only their tasking, but mentorship and assistance to others. The interaction between employee, supervisor and IPT Lead should be fostered and regularly scheduled, in addition to separate performance reviews.

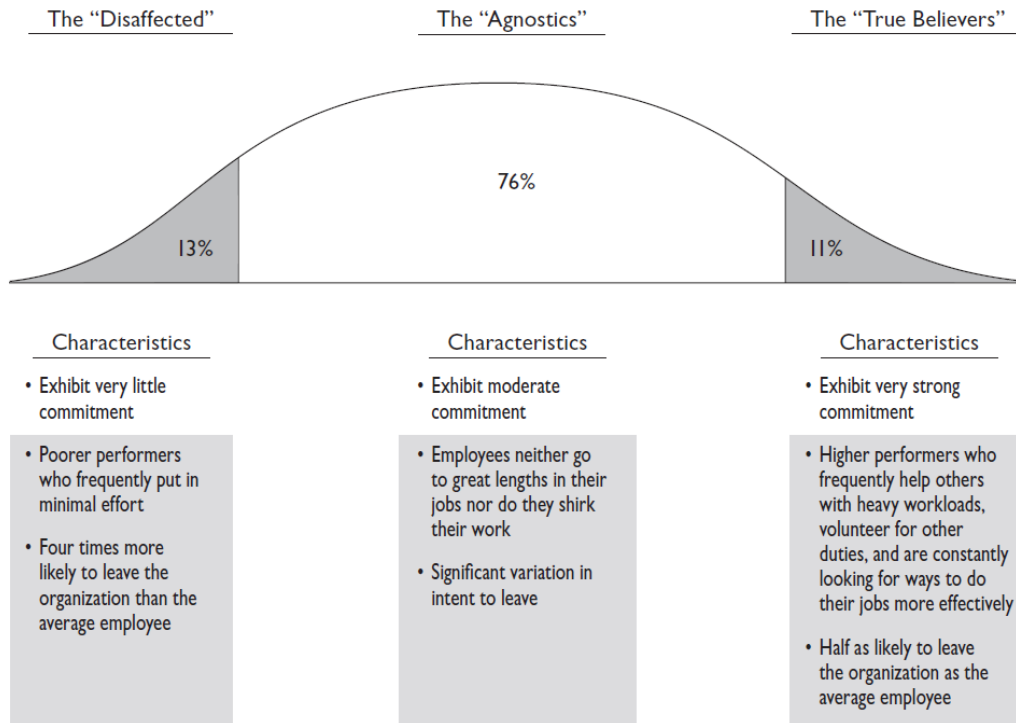


Figure 8. The State of Workforce Engagement. Source: Corporate Leadership Council (2004).

Employee engagement is a result of many factors but can be primarily linked to the organizations strategy and execution. Employees should understand the mission and vision of the organization, and how their direct contributions are a benefit to achieving and supporting that mission and organizational goals. Effective and regular communication through the organization is vital to ensuring those organizations with expansive ranges of deliverables, have given employees the opportunity to understand the larger strategic picture. Managers and supervisors at all levels play a significant role in supporting this communication and creating engagement between the employee to the organization. First line supervisors or managers have the most direct knowledge of the employees tasking and are critical in relating the employees tasking and how it relates to the overarching organizational efforts.

Use of a talent profile system can collect data on employees skills, abilities, assessment levels, education, certifications, aspirations, career plans, interests and other

internal and external influences directly impacting the employee (Cook 2015). A talent profile system allows data consolidation such that questions and insights from various levels of the organization can be gained. Data collection on employees is a priority and building block for a talent profile system as this is the starting place for information and knowledge development. In the Data, Information, Knowledge and Wisdom (DIKW) hierarchy (see Figure 9), data is knowing nothing (just numbers for instance), information is knowing what, knowledge is knowing how and wisdom is knowing why (Rowley 2007). Taking data from each employee, pairing it with known business demands creates knowledge that can be used from higher levels of the organization. Pared with other talent, employees or supervisors can identify competency networks, strengths, weaknesses, mentorship, and job opportunities within their teams. This capability provides the organization knowledge of what they have and what they need to develop or acquire. Over time, wisdom can be achieved by understanding why certain gaps are present or why strengths have been established within a command. Once the Command or Organization is aware of this input, they can leverage these capabilities by making educated decisions for challenges or for plans affecting the future direction of the team and organization.



Figure 9. The DIKW Hierarchy. Source: Rowley (2007).

Providing succession planning for the talent that is deployed in support of projects and efforts is critical for continued success in those objectives, particularly for key talent positions. Succession planning is the forecasting of rotations between employees currently in a role, to those employees that are planned to fill that role in the event of employee

departure (planned or unplanned). Succession planning begins with an understanding of the organizations current needs, and incorporating the long term plans (where is the business going) (Hall-Ellis et al. 2017). Upon selection of successor(s) for key positions, the development of this employee to ensure capability to meet the needs of this position should be planned and executed.

E. RETAINING TALENT

Employee retention is derivative on engagement, satisfaction of tasking and alignment of current tasking to career development plans. Consistent feedback from supervisor/IPT Lead to the employee and from employee to supervisor/IPT Lead is critical for ensuring needs are met between all parties. Supervisors and IPT Leads should be clear with the employee on how their expectations of the employees' duties are being met (positively or negatively). This allows the employee an opportunity to identify performance strengths and weaknesses and make adjustments where and if needed. Conversely, the employee should be open and honest with supervisors and IPT Leads so that these leadership positions are aware of the perspectives of the employee. These leaders need to be receptive to this feedback and prepared to make meaningful change when requested. These actions ensure buy-in is apparent to the employee from their leaders, engagement in all directions is present and the likelihood of employ retention increases.

In concert with talent management, organizations should emphasis and provide processes and tools in knowledge management. In the sense that talent management is the management of the organization's talent (i.e., employees, collective knowledge, skills, abilities), then knowledge management is the management of the organization's knowledge, or what the organization as a hole knows. Knowledge management is critically linked to talent management as it is commonplace to find that talent is where the majority of the knowledge is held (with the employee), so an effective combination strategy of talent and knowledge management must take place for the benefit of the organization and its consumers. Studies into integrating talent management and knowledge management have been completed to identify methods to achieve this integration and benefits of integration (Whelan and Carcary 2011). "Specific knowledge management concerns can be addressed

with a talent management pairing, such as identifying key knowledge workers (those that possess the knowledge), knowledge creation, knowledge sharing, developing knowledge competencies and knowledge retention” (Whelan and Carcary 2011, 4). As shown in Figure 10, there exists talent management strategies for addressing each of these knowledge management concerns.

Table I TM initiatives addressing KM challenges				
<i>Identifying knowledge talent</i>	<i>Knowledge creation</i>	<i>KM challenge Knowledge sharing and positioning</i>	<i>Developing knowledge competencies</i>	<i>Knowledge retention</i>
<i>TM initiatives</i>				
Talent/performance management reviews	Cultivate knowledge creators	Organizational network analysis	Competency based training	Reward and recognition programs
Talent recruiting	Cultivate knowledge activists	Mobility opportunities	Succession planning	Knowledge transfer mentoring
		Network mentoring		
<i>Focus group comments</i>				
Effective KM requires collaboration yet high performers generally determined by individual attributes and accomplishments. Collaboration abilities and helpfulness to others should be central to recruitment and promotion of high performing knowledge workers	All employees create useful knowledge at different times. Merit in facilitating key knowledge activists but less so for key knowledge creators	Strong agreement that effective KM requires having key people in key knowledge facilitation positions. Using ONA to identify and coach key knowledge networks has particular merit	Limiting competency based training to only those deemed talented could lead to resentment among other employees. Understanding what skills they possess and developing these potential replacements has merit	All participant firms suffered significantly due to loss of key knowledge holders. Initiatives to retain this knowledge is critical to future success
<i>Contribution</i>				
High	Medium	High	Medium	High

Figure 10. Talent Management Initiatives Addressing Knowledge Management Challenges. Source: Whelan and Carcary (2011).

Developing talent management practices will cultivate knowledge within the organization. As part of strategic talent management, the organization should “cultivate knowledge creators” (Whelan and Carcary 2011, 5): prioritized advancement of key knowledge creators and “cultivate knowledge activists” (Whelan and Carcary 2011, 5): similar but those that push knowledge, perhaps not create it. Part of this cultivation should be the monitoring and influencing of “talent positioning” (Whelan and Carcary 2011, 6) which is the location of the talent identified in organizational network analysis (such as communication maps between talent). Knowledge sharing can be advanced by network mentoring, where after the key knowledge workers are identified, a mentor is assigned to

establish connections from that key knowledge worker to other key knowledge workers. However, there are instances where key knowledge workers may prefer or operate more effectively in informal, self-directed manners. To avoid these knowledge workers from disconnecting from the organizational objectives, leadership should provide guidance and influence on vision and direction. In summary the analysis between management techniques resulted in several suggestions for supervisors and leaders. Per their research,

1. identify key knowledge workers;
 2. maneuver key knowledge workers in network positions where they can enhance knowledge sharing; and
 3. identify key knowledge holders whose departure would detrimentally impact knowledge flows, and implement plans to retain this knowledge.
- (Whelan and Carcary 2011, 10)

Additionally, managing knowledge sharing in international assignments based on rotational time limitations is a constraint. From an employee perspective, these are unique opportunities to experience a new role, organization, team, market or different culture (Davoine, Barmeyer, and Rossi 2018). During this time there exists an opportunity to develop new skills or competencies in support of future career plans. However, this development of skills or competencies can also result in advancements of organizational knowledge. As found in the referenced case study by Davoine, Barmeyer and Rossi, knowledge transfer is more effective in scenarios that involve regular and informal communications, versus formalized knowledge management. The regular and informal interactions create trust and relations between the knowledge workers and receivers and is thus more beneficial than documentation or information technology tools.

F. SUMMARY

Talent, and the knowledge, skills, and abilities that they possess, are the greatest asset of an organization. Creating processes and tools to allow supervisors and business managers to influence the organizations talent is crucial to the success of organizational objectives. A formalized talent management strategy allows maximization of talent through attraction, development, deployment, and retention of employees, whilst aligning with organization goals.

A talent management process will analyze not only what KSAs are available to the competency, but also identify those areas where employees want to grow or develop into. This includes identifying key talent or knowledge workers and developing backfill and rotation plans. To increase chances of success during time of talent need, the organization should maintain constant advertisement of its business and image during periods when needs are present. Techniques to establish a brand of the organization are effective in attracting and retaining employees. Supervisor assessments, such as using the nine-grid talent matrices, are effective methods for coordinating succession planning, growth potential and development investments. A talent profile system is an effective way of consolidating, analyzing, and networking available talent. Employee engagement is critical for increasing employee satisfaction, work effectiveness and retention.

A focus on knowledge management during the talent management process allows a perspective that identifies key knowledge workers and the benefits of coordinating communication between knowledge workers, as well as ensuring backfill of key knowledge workers. While formalized knowledge management process is beneficial at a strategic level, the quality of knowledge transfer between incoming and outgoing personnel during rotations, or between other coworkers, is benefited by informal and regular interactions as a means to create trust and interpersonal relationships.

III. TALENT MANAGEMENT SYSTEM DERIVATION

Utilizing the knowledge of NIWC Atlantic operations and the context of the talent management literature review, a talent management system (TMS) will be derived. This development will follow a Vee model systems engineering process, as shown in Figure 11 as a framework for decomposing the system from the business need, down to the architecture definition (abbreviated to not show the full Vee model—but only the left side of the Vee—for clarity on target for this derivation).

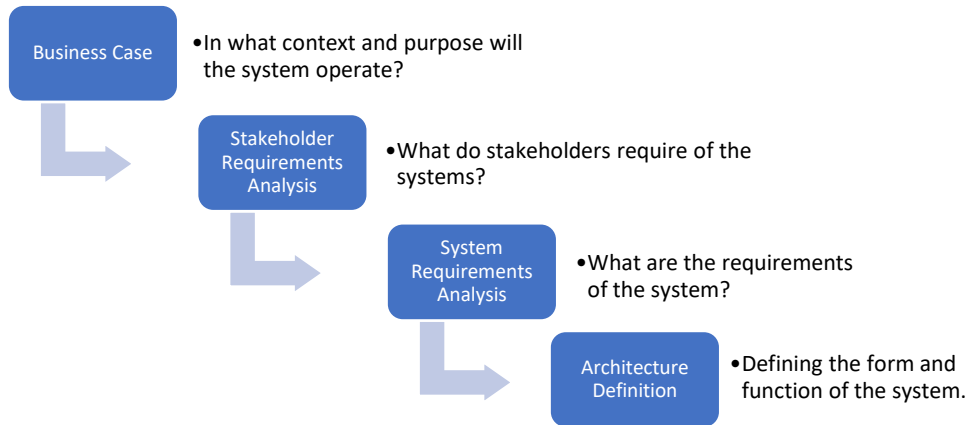


Figure 11. Systems Engineering Process. Adapted from Walden et al. (2015).

A. BUSINESS CASE

In support of NIWC Atlantic’s mission to deliver information warfare solutions that protect national security, the organization had defined three pillars of their Execution Strategy: People, Process and Product (NIWC Atlantic 2022). While the Product pillar is focused on advancing and delivering products that meet the needs of the information warfighting community, the Process and People pillars have direct correlation to a need to manage the talent within the Command. Process is focused on utilizing processes that create an effective environment for execution. People is focused on developing and empowering employees for the benefit of the Navy and DOD customers.

Combined, the People and Process pillars can be decomposed into a business need.

NIWC Atlantic requires talent management tools and processes to manage its professionals and more effectively influence its product delivery.

This business need statement recognizes that people and processes are influential in the Product pillar, and that to have success in this product pillar, People must be managed in a strategic and tactical manner. Strategically, NIWC Atlantic needs a method and tooling to understand what assets it has at its disposal currently and where development and investments need to be made to meet any current or future gaps. In an OCONUS environment, a TMS can be utilized to manage PCS rotations, resource planning, aligning returns with new hires, and ensuring the correct skills sets are developed or tasking transferred to other staff. Processes need to be developed and optimized in support of that talent management.

B. STAKEHOLDER REQUIREMENTS ANALYSIS

Stakeholder requirements analysis begins with stakeholder engagement, interviews and/or surveys to understand the operational and administrative needs of each organization. As part of this research, customer interviews were conducted with those positions listed in Appendix A at NIWC Atlantic. A system context diagram was developed using the information from the interviews, shown in Figure 12. This diagram identifies those key users and consumers of the TMS. Supervisors are the primary users of the TMS, administrating and analyzing data for their employees. Employee's data is key to the success of the TMS and employees must be able access and influence the data set. IPTs are critical for establishing the demands of the businesses within the TMS. Lastly, candidates must be able and available to access the TMS when talent needs are realized.

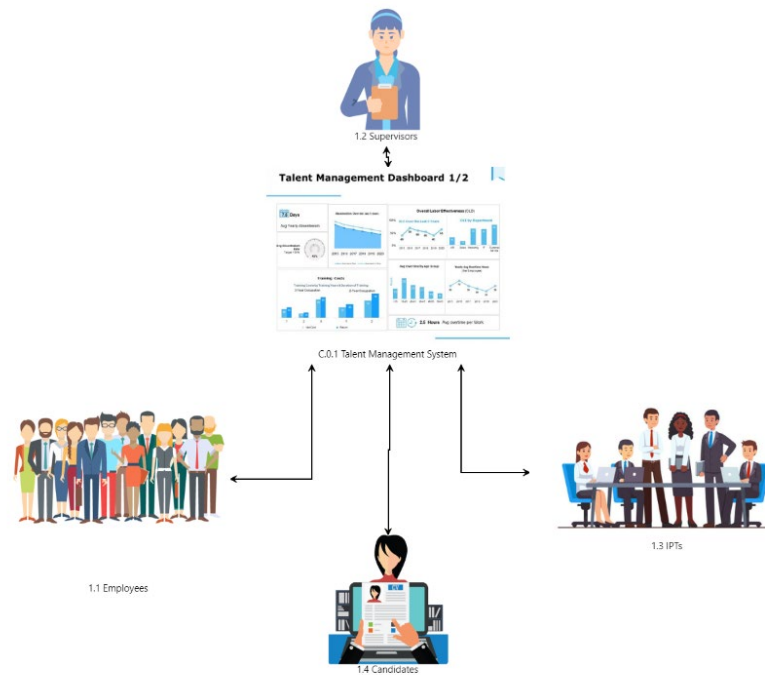


Figure 12. TMS Context Diagram

In concert with the development of the Context Diagram, a Use Case (UC) Diagram as shown in Figure 13 has been developed. Based upon stakeholder interactions, six use cases were developed for the TMS. Define Talent Needs (UC.1) is the first use case for the TMS, and typically the first step in the talent management process. IPTs establish the project needs in this use case, while Supervisors compare needs with existing talent. In Attract Talent (UC.2), Supervisors works with the talent needs defined in order to attract appropriate talent in the form of Candidates. In the Develop Talent (UC.3) use case, Supervisors and Employees work together to define career plans and methods to achieve those goals for the employee. In an OCONUS environment, these career plans are translated into tour goals, to match their three-to-five-year rotation. Deploying Talent (UC.4) is equivalent to assigning employees to IPTs and subsequent projects, thus requiring partnering from the Supervisor, Employee and IPT. In Retain Talent (UC.5), the TMS assists with orchestrating the efforts towards retaining employees. Although all tours overseas have an end, the efforts in Retain Talent are useful when the employee is deciding between an extension at the end of the tour or returning CONUS. It is beneficial to the

Command and IPT to extend the employee if the work demand still exists in most cases. Lastly, the TMS can be used to Analyze Talent (UC.6), developing reports and reporting metrics to the Supervisor to assist with decisions and planning.

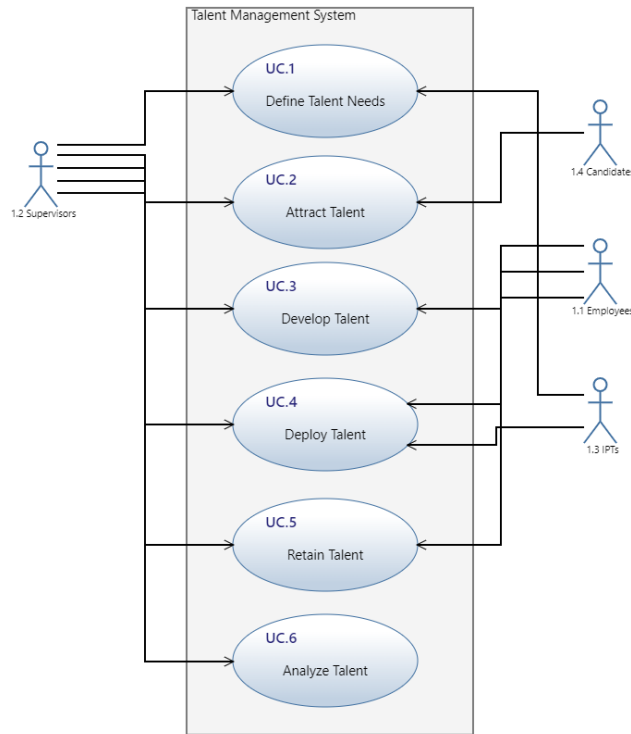


Figure 13. TMS Use Cases

C. SYSTEMS REQUIREMENTS ANALYSIS

To develop the requirements specific for the TMS, the Use Case Diagrams are further decomposed into activity diagrams for each use case. By defining the actions that the TMS must execute for each use case, the system requirements can be derived.

1. (UC.1) Define Talent Needs

NIWC Atlantic business model requires repetitive analysis of current and future talent requirements. As a NWCF organization, NIWC Atlantic (including overseas operations) brings in new work on a regular basis as existing projects end. Each time this

happens, the IPT must define their talent requirements based upon their execution strategy for their projects in support of customer objectives.

This use case has three actors, Supervisor, IPTs and the TMS itself, as shown in Figure 14. Each use case begins with the Supervisor initiating a session by supplying Supervisor identification (ID). Upon completion of Supervisor identification with the TMS (this demonstrates the requirement to handle multiple supervisors), the TMS executes two parallel activities. First, in UC.1.9 and UC.1.10, the TMS requests what the current talent capacity is within the supervisor's competency. This is the opportunity for the supervisor to provide the TMS with what employees are within the competency, with their education, certifications, knowledge, skills, and abilities. Simultaneously, the IPT is providing the TMS with the current needs of the IPT (project tasking that is to be executed now) and the future needs of the IPT (project tasking that is anticipated). Currently, these demands are submitted from IPT to Supervisor via an issue tracking tool called Jira and through a platform called employee competency demand (ECD). Upon receipt of this information, the TMS compares the demand (current and future from the IPT) to the talent capacity. This information is passed to the Supervisor for review. For both current and future demands, the Supervisor must identify and decide on if talent is available to apply to these demands, or if these talent needs should be recorded as actualized needs in the TMS (these can be followed by the Attract Talent use case).

2. (UC.2) Attract Talent

Attract Talent use case (Figure 15) again begins with the Supervisor and TMS working together to authenticate the Supervisor. Once identified, the TMS provides the talent needs of this supervisor/competency based on previous or existing instances of Define Talent use case. Upon confirmation of these talent needs, the Supervisor selects which talent need the supervisor will start attracting. It is not feasible to attract all talent needs simultaneously and immediately; for instance, some talent needs are identified as future needs and may not yet be required. The supervisor selects which of the needs the competency is moving towards attraction and recruitment.

Upon selecting which positions to pursue, the Supervisor must decide the talent attraction strategy that will be utilized (UC.2.7). The most typically options include direct hires and competitive advertisements (for some positions at NIWC Atlantic, competitive advertisements are required, such as high grades), each of which have their benefits and challenges, discussed below. Once decided, the Supervisor submits this action to the TMS, where coordination is made with our final actor in this scenario, the Candidates. Candidates provide their application, resumes, and transcripts. Upon receipt of documents, the TMS transfers the applicants' documents to the Supervisor for review and selection, ultimately ending with the Supervisor submitting a hiring action to Human Resources (HR). Use Cases 2.8 through 2.10 are commonly handled through USAJobs and USAStaffing, regardless of attraction strategy. It is not intended for the TMS to replace these systems, but interoperability with these systems would be required to coordinate these hiring actions most effectively.

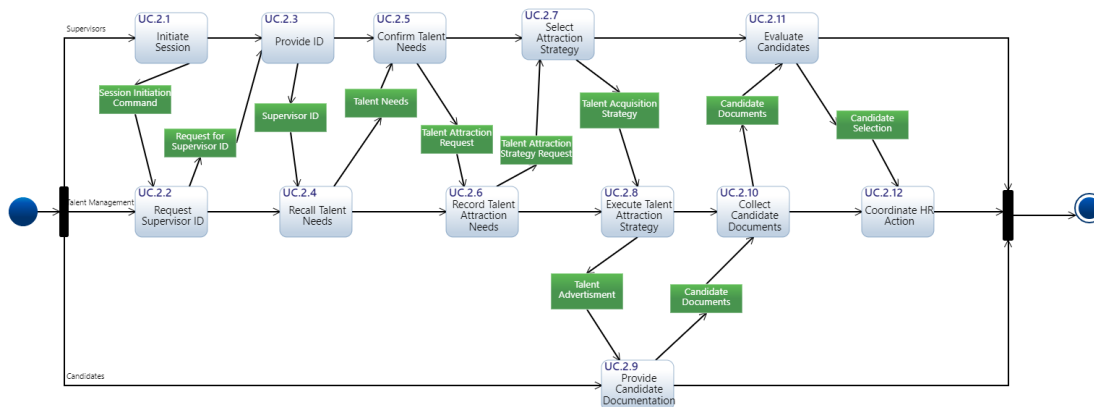


Figure 15. Use Case 2 Attract Talent

Direct hires or name selects require the Supervisor to know of a qualified candidate. This requires networking with individuals and teams to find these candidates, as well as presenting opportunities to large audiences (at NIWC Atlantic these are called Opportunity Showcases). However, for OCONUS positions, the direct hire strategy can be highly effective. During competitive announcements, there are many applicants that apply but are not sure about moving overseas. It is common for these applicants to want to know if they have the job, before they take the opportunity seriously, resulting in declinations of the job offer. This results in lost time if an alternative selection was not available. Direct hires are typically more successful in hiring as these individuals consider the opportunities while being evaluated by the supervisor. The negative to direct hire strategy for OCONUS is it requires a lot of effort to find these qualified candidates, whereas a competitive announcement on USAJobs tends to reach more candidates. Also, incentives are made to hire for OCONUS opportunities with NIWC Atlantic, from within NIWC Atlantic as much as feasible. As mentioned in Section 2.B, the ramp up time for internal hires is significantly less than hiring someone external to the organization, as well as sending them to a new overseas location.

3. (UC.3) Develop Talent

Developing talent to meet critical skillset requirements is crucial for long term success of the organization. It is not feasible to hire external for every skillset gap that exists, specifically for an organization like NIWC Atlantic where technology continues to grow and expand. The workforce must be continually trained and developed to meet the technology needs of future.

Shown in Figure 16 is the NIWC Atlantic method for developing employees. Integrating with a TMS, the process starts with identification of the supervisor and list of employees from that competency. UC3.2 through UC3.6 is the establishment of a career plan for a subject employee. Coordinating through the TMS, the employee and supervisor establish a list of goals for the employees' career, both short term and long term, as well as those steps that should be taken to achieve these goals. Once established, the employee and TMS record the credentials of the employee, such as college education and industry certifications. Using this data, along with experiences gained by the employee, the employee self-assesses through the CDM process (UC3.7 through UC3.11). Partnering career plans with CDM assessments, the employee establishes their IDP, to act on their training and development plans. IDPs are utilized by the Supervisor and competencies to allocate and manage funding across employees and are currently executed within the Total Workforce Management System (TWMS).

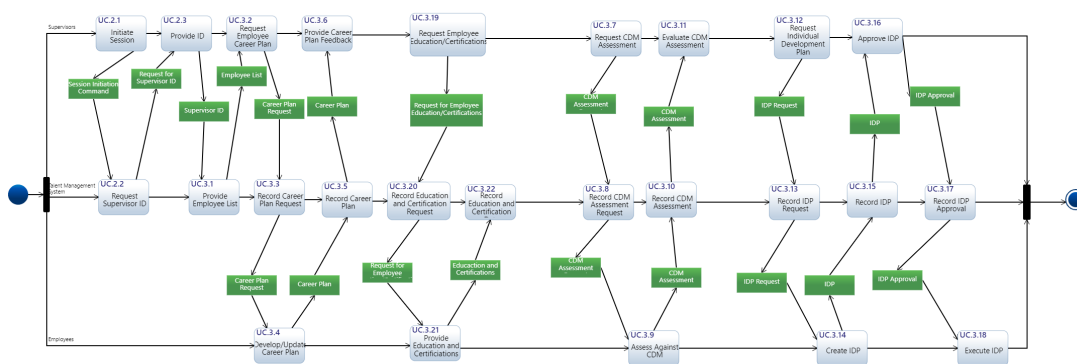


Figure 16. Use Case 3 Develop Talent

This activity diagram is shown as linear, and is suggested to be executed annually, although parts of it may be executed independently. For instance, the employees career plan may not have changed, and thus does not need review or re-submission. Similarly, an employee may gain knowledge, skills and abilities throughout the year that would allow them to be assessed within a CDM. Therefore, it is encouraged to view this activity diagram as a suggested path, but not a required order.

Capturing of career plans, education, certifications, CDM assessments, and IDPs within a TMS is a lynchpin data source for the success of the system. At NIWC Atlantic this is a current gap in capability and prevents the Command and even lower-level competencies to manage their staff strategically and tactically. The implementation of a talent management system would bring immediate benefit to management of employees' careers and capabilities in alignment with organizational goals.

In an OCONUS environment, this activity model largely still applies with one slight adaptation. In addition to career planning, the employee and supervisor should work together to establish career goals that are specific to the time duration of the OCONUS tour. Overseas tours provide unique opportunities to grow and develop as a professional, allowing interaction with the operational community and technologies or concepts that might not have been seen from CONUS. Leveraging these opportunities is advantageous for the employee in their full career development.

4. (UC.4) Deploy Talent

In a coordinated action between Supervisor, IPT and Employee, the TMS can assist with the management of employee to IPT pairings. Shown in Figure 17, this use case begins by recalling the demand and capacity comparison completed within the UC1 Define Talent Needs. This is to demonstrate that Supervisors do not assign talent to assignments without the business need being realized (do not put a person someplace they are not needed or wanted). In UC4.2 the Supervisor identifies an asset (talent) and assigns that Employee to the IPT. As shown, the Employee and IPT accept the assignment, although in practice this is a conversation between all parties to ensure mutual benefit. In addition to the IPT

assignment, the TMS shall record the specific project assignments the employee is tasked with.

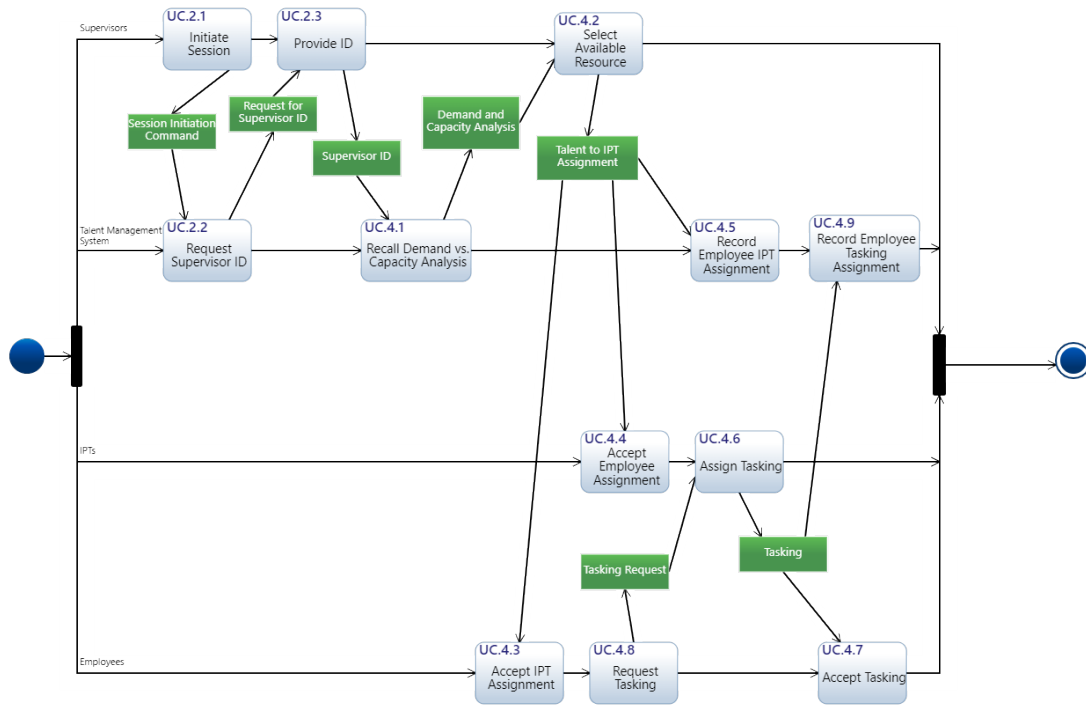


Figure 17. Use Case 4 Deploy Talent

As discussed, as a NWCF, systems engineers at NIWC Atlantic can be found working several projects or assignments simultaneously so management at the project level is required. OCONUS this becomes a higher priority as it is beneficial to succession planning efforts to monitor project completion dates against assigned employee tour dates. This data collated into the TMS allows advanced notification for development of successors if needed or new hiring.

5. (UC.5) Retain Talent

Similar to the development of employees, critical to the long-term success of the organization is employee retention. The IT industry is competitive from an employee acquisition point of view, and NIWC Atlantic competes with not only other Government

agencies, but private companies to acquire the best candidates. Employee engagement as a means to strengthen employee retention can be bolstered by the implementation of a talent management system.

Shown in Figure 18, the activity diagram for this use case begins with identification of the Supervisor into the TMS and followed by a request for employee priorities (UC.5.1). Each employee holds their own values for their career, and thus has different employment priorities. Identification of these priorities should be found for each employee and recorded in the TMS. The Supervisor should make meaningful progress impacting these priorities (such as development, pay, etc.) as well as some efforts that affect all employees, like a positive working environment and an awards program (UC5.7 and 5.8). Additionally, as part of the literature review the importance of employee engagement has been realized in relation to employee retention. UC.5.9 through UC.5.15 demonstrates the communication between the Supervisor, Employee and IPT (and recorded by the TMS) on the performance of the employee, as well as vice versa, the feedback from the employee on the tasking/project. This communication is formalized in the performance review program STRL, although informal communication such as one-on-one conversations or 360 surveys provide valuable data towards understanding feedback on the employee or tasking.

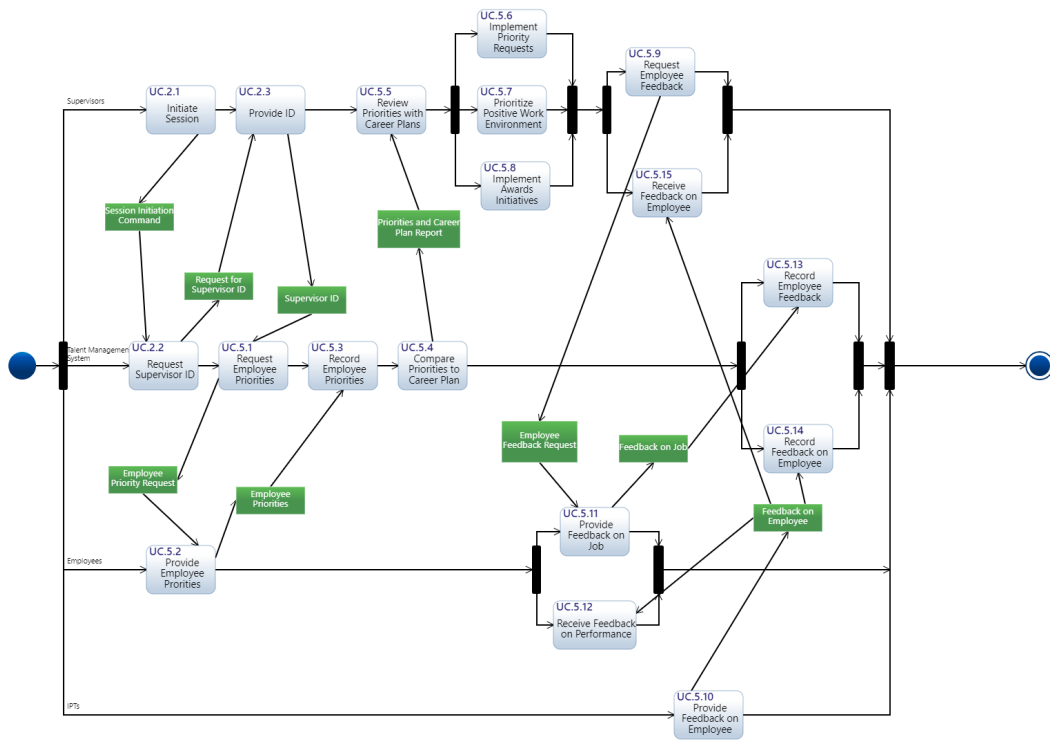


Figure 18. Use Case 5 Retain Talent

Retaining talent efforts in an OCONUS environment are not only focused on the risk of losing the employee from the organization, but also attempting to influence the employee to maximize their tour (going from 3 to 5 years). Employees are always susceptible to taking positions with other organizations, but an OCONUS tour presents unique personal opportunities that some employees find valuable. This creates a risk of an employee finding employment outside of the Government at the end of the tour so that they can remain overseas. Focused engagement on employees during their tours to ensure their priorities are met, and that they would be valued returning to NIWC Atlantic (if they have return rights to NIWC Atlantic) would benefit from a TMS that orchestrates employee engagement. Conversely, some employees will want to return CONUS at the end of their initial tour. This is acceptable, however if the business needs continue, it is likely more advantageous to the Command to keep that employee for an extension, as this employee is already acclimated to the OCONUS environment (and ideally performing satisfactorily).

6. (UC.6) Analyze Talent

As mentioned previously, a TMS provides a unique opportunity to collect data on employees and compare that information against the plans of the organization. Without this tooling, various groups within the organization will manage employees differently and create challenges to managing talent at an organizational level. Using the TMS allows strategic plans to be developed by leadership, and tactical action to be taken by Supervisors, Employees and IPTs. Influencing these plans are reports containing data and information, which will influence knowledge and provide opportunities to formulating wisdom.

The activity model demonstrated in Figure 19, illustrates a supervisor's perspective on reports to pull from the TMS. After identifying the Supervisor, the TMS develops reports based on the latest data available. Four reports are shown in UC6.3 to 6.6, although this are not meant be exhaustive of the reports a TMS could develop. For example, the TMS can compare employee career plans against business demands. This would allow the Supervisor to identify opportunities to move employees around to align them with tasking that would benefit their careers. Forecasting the talent availability (UC6.6) would include analyzing employee's assignments on projects and reviewing when those projects are going to come to a close. This activity model concludes with delivering the desired report to the supervisor.

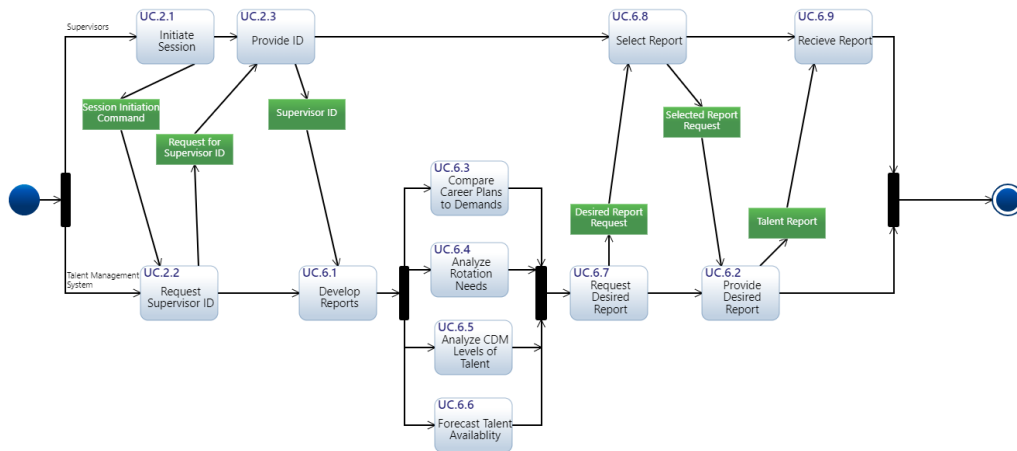


Figure 19. Use Case 6 Analyze Talent

Analyzing Talent would be applicable to any competency, to include those in OCONUS tours. Specifically for these tours, reports that are focused on tour rotation end dates, extension eligibility and return rights would be particularly beneficial to an OCONUS supervisor.

7. Systems Requirements

The analysis of use cases and creation of activity diagrams creates a list of actions that the TMS must execute. These actions are listed in Appendix B. Talent Management System Actions. Each of these actions is then translated into a systems requirements statement, as fully shown in Table 2. These requirements are aligned to either Input, Output or Internal Requirements based upon the activity diagrams signal flow. The mapping of system requirements to actions of the TMS are shown in Appendix C. System Requirements to Action Mapping.

Table 2. TMS System Requirements

Number	Name	Description
1	Functional Requirements	
1.1	Input Requirements	
1.1.1	Record IDP	The TMS shall record each employee's Individual Development Plan (IDP).
1.1.2	Record Existing Talent Capacity	The TMS shall record the exiting talent capacity, in terms of total employees assigned to the competency.
1.1.3	Record IDP Approval	The TMS shall record the approval of the employee's Individual Development Plan (IDP).
1.1.4	Record IPT Demands	The TMS shall record the talent demands from each IPT and project.
1.1.5	Record CDM Assessment	The TMS shall record the results of the employees competency development model assessment.
1.1.6	Record IDP Request	The TMS shall record the request from the employee to approve their Individual Development Plan.
1.1.7	Collect Candidate Documents	The TMS shall collect the submitted documents from potential employment candidates.
1.1.8	Record Talent Needs	The TMS shall record the talent needs, which are those capabilities not found within or available within the competency.
1.1.9	Record Employee IPT Assignment	The TMS shall record the assignment of employee to IPT.
1.1.10	Record Employee Tasking Assignment	The TMS shall record the employee's tasking assignment.
1.1.11	Record Employee Priorities	The TMS shall record the employee employment priorities.
1.1.12	Record Feedback on Employee	The TMS shall record feedback on employee's performance.
1.1.13	Record Employee Feedback	The TMS shall record the feedback from the employee to the Supervisor.
1.1.14	Record Career Plan	The TMS shall record the employee's career plan.

Number	Name	Description
1	Functional Requirements	
1.1.15	Record CDM Assessment Request	The TMS shall record the request from the employee to review the CDM assessment submitted.
1.1.16	Record Talent Attraction Needs	The TMS shall record the talent needs that are moving into attraction phase.
1.1.17	Record Career Plan Request	The TMS shall record the request from the supervisor to the employee to develop a career plan.
1.2	Output Requirements	
1.2.1	Coordinate HR Action	The TMS shall allow coordination of HR actions that influence talent.
1.2.3	Execute Talent Attraction Strategy	The TMS shall provide the required data outputs necessary to execute talent attraction of selected strategy.
1.2.4	Provide Desired Report	The TMS shall export desired reports to the user.
1.2.5	Compare Demand and Capacity	The TMS shall provide a comparison of existing talent capacity to talent demands.
1.2.6	Request Employee Priorities	The TMS shall request from the employee what employment items are of most importance to that employee.
1.2.7	Request Talent Capacity	The TMS shall request the current talent pool's information and capacity from the Supervisor.
1.2.7	Compare Priorities to Career Plan	The TMS shall create a comparison between employee's career plan and employment priorities.
1.2.8	Recall Demand vs. Capacity Analysis	The TMS shall provide the demand vs capacity analysis.
1.2.9	Request Desired Report	The TMS shall request from the user what report is desired.
1.2.10	Recall Talent Needs	The TMS shall recall and provide the user with the talent needs of the selected competency.

Number	Name	Description
1	Functional Requirements	
1.2.11	Request Supervisor ID	The TMS shall request the identification of the supervisor in order to pull up the supervisor's data and competency.
1.2.12	Provide Employee List	The TMS shall provide the list of employees attached to the competency.
1.3	Analysis Requirements	Those requirements that are completed internally to the TMS for analysis support.
1.2.2	Develop Reports	The TMS shall consolidate data and information for presentation through report development.
1.2.5	Analyze CDM Levels of Talent	The TMS shall consolidate a listing of CDM assessments for a user selected number of employees.
1.2.6	Analyze Rotation Needs	The TMS shall identify talent resources required based on the projected demand signal and available resources for a given time.
1.3.4	Forecast Talent Availability	The TMS shall compare talent existing tasking end dates to future tasking in order to create windows of projected availability.
1.3.5	Compare Career Plans to Current Demands	The TMS shall compare talent career plans to current demands to identify potential compatibilities.
1.3.6	Compare Career Plans to Future Demands	The TMS shall compare talent career plans to future demands to identify potential compatibilities.

8. System-wide Requirements

Independent of the derived system requirements for the TMS, system-wide requirements are developed in support of the TMS based upon the business need and use cases, as shown in Table 3. These requirements address the TMS needs in relation to technology, physical, standards and protocols. For example, the availability of the system (the amount of time the system is in operational and useable state) is a technology requirement, which will drive system architecture and design decisions to ensure the user community has this tool available to them. Other technology requirements are developed to ensure the TMS is intelligently designed to meet the specific needs of NIWC Atlantic

(such as Load and the ability to handle >5000 users). Several system-wide requirements, such as cost and schedule are not appropriate at the time of this research, however, would impact the overall design and implementation of the system if the TMS implementation was realized.

Table 3. System-wide Requirements

2	System-Wide Requirements	
2.1	Technology	
2.1.1	Availability	The TMS shall be available to users 95% of the time.
2.1.2	Performance	The TMS shall have an average page load time of less than 2 seconds.
2.1.3	Load	The TMS shall have the ability to manage 5000+ employees.
2.1.4	Account Management	The TMS shall allow creation of various account roles that enable different rights to the system (employee, supervisor, IPT Lead, administrator).
2.1.5	Interoperability	The TMS shall interface with other existing NIWC Atlantic business systems, as well as external systems as needed.
2.1.6	Reliability	The TMS shall limit service interruptions to five per year.
2.1.7	Data Storage	The TMS shall maintain data in a redundant fashion, ensuring data recoverability.
2.1.8	Security	The TMS shall restrict unauthorized users from accessing the TMS.
2.1.9	Useability	The TMS shall minimize required user training in order for users to operate the system.
2.2	Physical	
2.2.1	Web Platform	The Talent Management Tool shall be a web-based platform.
2.2.2	Classification	The TMS shall operate at the Controlled Unclassified Information (CUI) level.
2.3	Standards and Protocols	
2.3.1	Authorization	The TMS shall be authorized for operation on Navy networks.
2.4	Cost	There are no known Cost requirements at this time.
2.5	Schedule	There are no known Schedule requirements at this time.

D. ARCHITECTURE DEFINITION

Systems architectures are the abstract description of the parts of the system and how those parts are related to each other (Crawley, Cameron, and Selva 2016). A common construction method for the architecture of the system is to establish diagrams that illustrate

the form (what the system is made up of, commonly physically) and the function (what the system does) of the system. The physical representation and composition of the TMS is of less importance to this research than the functional representation of the system and is not addressed.

Shown in Figure 20, the functional decomposition of the TMS is decomposed to three levels. F.1 Manage Employee Capability is the capacity for the TMS to organize and influence the total talent capabilities for the organization or talent grouping. This function directly decomposes to the use cases for Attract Talent, Develop Talent, and Retain Talent. Secondly, the TMS will execute functions that supports the mission of the organization in delivery of capabilities to its customers, F.2 Support Business Tasking. This function identifies areas that support the alignment of employees to talent needs, such as defining those talent needs (UC.1) and aligning talent to IPT tasking (UC.4). Lastly, the TMS has a use case for analyzing talent that is available (and needed), of which is used to inform leadership and staff on current talent posture.

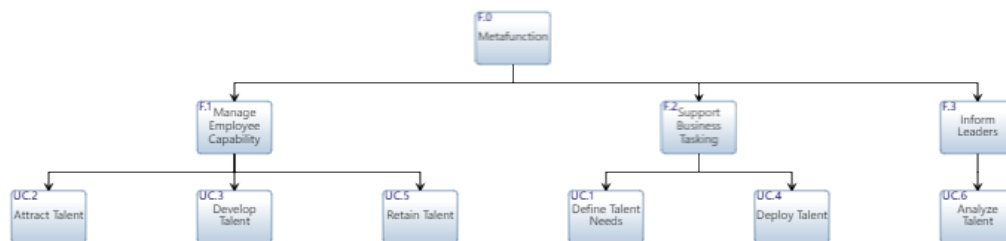


Figure 20. Functional Decomposition

IV. TALENT MANAGEMENT TOOL

Utilizing the TM literature review as a backdrop and the definition of the TMS systems requirements and architecture as targets, the system can be further developed with the goal of developing a workable prototype system. “Software prototypes are constructed to investigate a situation or to evaluate a proposed approach to solving a technical problem” (Richard E. Fairley 2009). By developing a prototype, we will learn more about the talent management issue, the applicability of the requirements, and usefulness of solution in development. Furthering knowledge of the problem and potential solutions is the intent of the prototype. This will be accomplished through development, use and demonstration, although no widespread deployment is anticipated. Data fed into the prototype will be representative of real-world OCONUS talent and business demands.

A. DATA NEEDS

Furthering the development of the talent management system, the system requirements are analyzed to discern the data needs of the proposed system. In this context, the data needs are the elements of the TMS that need to be captured, handled, manipulated and presented from the tool. Each system requirement statement is examined to determine what elements must be present in the system. Figure 21 illustrates this mapping. Sixteen data needs were created mapped to the requirements, with annotations show for the derivation from each requirement; Employee, IDP, Competency; Demands, Project, IPT, CDM, Candidates, Tasking, Priorities, Performance Feedback, Tasking Feedback, Career Plan, Attraction Phase, Reports and Capacity.

Number	Name	Employee	IDP	Competency	Demands	Project	IPT	CDM	Candidates	Tasking	Priorities	Performance Feedback	Tasking Feedback	Career Plan	Attraction Phases	Reports	Capacity
1.1.1	Record IDP	X	X														
1.1.2	Record Existing Talent Capacity			X													
1.1.3	Record IDP Approval	X	X														
1.1.4	Record IPT Demands				X	X	X										
1.1.5	Record CDM Assessment	X						X									
1.1.6	Record IDP Request	X	X														
1.1.7	Collect Candidate Documents								X								
1.1.8	Record Talent Needs			X	X												
1.1.9	Record Employee IPT Assignment	X					X										
1.1.10	Record Employee Tasking Assignment	X								X							
1.1.11	Record Employee Priorities	X									X						
1.1.12	Record Feedback on Employee	X										X					
1.1.13	Record Employee Feedback	X											X				
1.1.14	Record Career Plan	X												X			
1.1.15	Record CDM Assessment Request	X						X									
1.1.16	Record Talent Attraction Needs				X										X		
1.1.17	Record Career Plan Request	X												X			
1.2.1	Coordinate HR Action								X						X		
1.2.3	Execute Talent Attraction Strategy								X						X	X	
1.2.4	Provide Desired Report															X	
1.2.5	Compare Demand and Capacity			X	X											X	X
1.2.6	Request Employee Priorities	X									X						
1.2.7	Request Talent Capacity			X													X
1.2.7	Compare Priorities to Career Plan										X			X		X	
1.2.8	Recall Demand vs. Capacity Analysis				X											X	X
1.2.9	Request Desired Report															X	
1.2.10	Recall Talent Needs			X	X												
1.2.11	Request Supervisor ID			X													
1.2.12	Provide Employee List	X		X													
1.2.2	Develop Reports																X
1.2.5	Analyze CDM Levels of Talent							X									
1.2.6	Analyze Rotation Needs			X	X					X						X	X
1.3.4	Forecast Talent Availability	X								X							
1.3.5	Compare Career Plans to Current Demands	X			X									X			
1.3.6	Compare Career Plans to Future Demands	X			X												

Figure 21. Requirements to Data Needs Mapping

B. DATA MODEL

Continuing in development, the Data Needs are used as a base point for development of a data model. The data model will be used as a reference guide for how the TMS will store data and relationships formed between data structures. Based upon knowledge of the data needs, their derivation from systems requirements and knowledge of the NIWC Atlantic business operations, relationships are built between elements.

Figure 22 illustrates the data model. Sixteen individual data elements of the model are created (although these are not a one for one from the Data Needs). The center of the model is the Employee, as this element is the primary focus of the Talent Management System. Attributes of the data element include specific characteristics that are unique to the employee, such as name, contact information and OCONUS PCS tour start and end dates. The Location data element is a one-to-many relationship with the Employee, as there are (possibly) many employees to one location, which is the primary duty station of the employee. A similar relationship is at the Competency that each employee is assigned to; one-to-many from competency to employee. In the figure, to the left of the employee is feedback information, which we have discovered as an important piece to capture within the TMS, in this case feedback on the employee (Performance Feedback) and feedback from the employee on the tasking assigned (Tasking Feedback). Note the relationship between the Employee and these feedback elements are many-to-many as each employee could be expected to have varying and numerous responses for each. To the right of the Employee are other employee unique data elements, to include what factors motivate an employee (Incentives), what their development plans are (IDP), what their career goals are (Career Plan) and which CDM they are assigned to or assessed against (CDM).

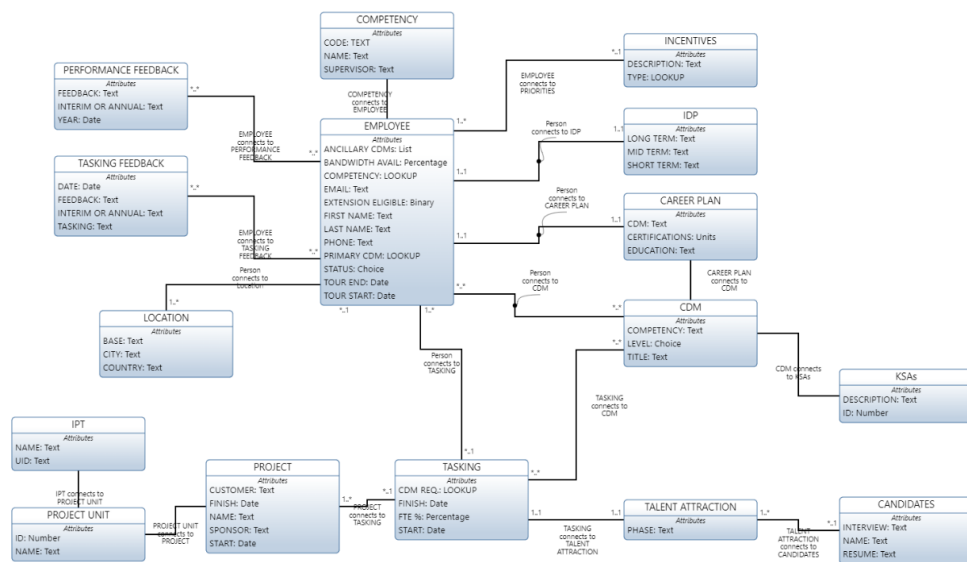


Figure 22. TMS Data Model

The bottom of the figure provides the business operations information into the TMS. Going from left to right, at NIWC Atlantic the business starts at the IPT level (although Department and Divisions could be added upstream here). Each IPT has Project Units, and then Projects, where more specific characteristics are needed to be captured for each, such as who the project is for (Customer), who is providing funding (Sponsor) and when the project will take place (Start and Finish). Each project will have one-to-many tasks associated with the project (Taskings), such as being the project lead for the effort, or a subject matter expert. Dependent upon if the Competency has available talent, some taskings will establish demand for talent not on staff (system requirements 1.1.8). This need will include data that is captured in Talent Attraction and Candidates.

A circle of relationships forms between the Employee, CDM and Tasking elements. This is where the business (IPT) meets the employees (Competencies), and agreements are made. Tasks must be defined in terms of CDMs, and employees assigned and assessed to CDMs so that appropriate and beneficial pairings can be made between employees and tasks. Ancillary data such as task durations and employee tour dates (in the case of OCONUS tours) is critical information in understanding current organizational task load and forecasting work availability or gaps. This association between employee, task and CDM is critical data sets that are not captured today at NIWC Atlantic via any means, and where a TMS would provide immediate value.

C. PROTOTYPE

The Navy's implementation of Microsoft Office 365 (M365), named Flank Speed, has brought unprecedented business capabilities to the workforce (U.S. Navy 2021). With this execution, business operations have the opportunity to change to a more dynamic, data driven environment, where software systems are leveraged to ease administrative burden, and distributing capabilities to a wider user base that have not been available before. For instance, M365 includes applications such as Microsoft Teams for communication and collaboration, Power Automate for automation of tasks and SharePoint for data storage and workflow. Due to the accessibility and capability of M365, PowerApps, Power Automate and PowerBi in concert together were chosen for the prototype TMS. PowerApps is used

as the user interface, with Dataverse as the data storage platform. Combined PowerApps and Dataverse (through Teams in our prototype) will do the majority of use prompting, data capture and data storage. With the assistance of Power Automate, data will be exported out of PowerApps for import into PowerBi, where the benefits of the data visualization tool can be leveraged for reporting.

1. Table Structure

Prototype development in PowerApps began with creation of a new Canvas application in the tablet form factor. This was chosen due to the amount of screen space needed for the application, as well as the anticipation that this prototype would be primarily accessed via computer/tablet and not mobile devices.

Following this, a series of tables was created within PowerApps, utilizing the data model as a framework (each element in the data model a separate table). Tables defines the information the application is looking to store, with each instance of data (row) as a record (Mattp123 2022). Figure 23 shows the tables created for each information type needed in the prototype. Based upon the operation of the prototype software, user defined data is stored in the Employee, Project, and Tasking tables, where the rest of the tables are predefined for this prototype (although ideally all tables would be user and/or administrator editable. Also shown in this figure are the connection references used for exporting data from Dataverse to OneDrive (more detail forthcoming) and the TMS Pilot canvas application itself.

Display name	Name	Type
CDM	cr5f0_cdm	Table
CDM LEVELS	cr5f0_cdmlevels	Table
COMPETENCY	cr5f0_competency	Table
EMP_INCENTIVES	cr5f0_emp_priorities	Table
EMPLOYEE	cr5f0_employee	Table
IPT	cr5f0_ipt	Table
LOCATION	cr5f0_location	Table
Microsoft Dataverse Crdba0d-793e8	cr5f0_sharedcommondataserviceforapps_793e8	Connection Reference
OneDrive for Business Crdba0d-12942	cr5f0_sharedonedriveforbusiness_12942	Connection Reference
PROJECT	cr5f0_project	Table
PROJECT UNIT	cr5f0_projectunit	Table
STATUS	cr5f0_status	Table
TASKING	cr5f0_tasking	Table
TMS Pilot	cr5f0_tmspilot_4deba	Canvas App

Figure 23. Prototype Tables

The contents for these tables can be found in Appendix D. Prototype Table Contents. Data for these tables is representative of real-world data found at NIWC Atlantic OCONUS offices, although employee names, projects and taskings are fictional to ensure the safety of individuals personally identifiable information.

2. Landing Page

The user experience begins at the TMS Landing Page, shown in Figure 24. Here several common items are found on each page. In the top boarder, the NIWC Atlantic logo, title of the PowerApp (“Naval Information Warfare Center (NIWC) Atlantic Overseas Talent Management”) and the current name and avatar of the logged in user. At the bottom right of the page are two buttons; one for returning to the previous page and another for coming back to this Landing Page (the ‘house’ button).

From this page, there are three distinct sections: an employee focus area, project workflow area and section in support of reporting. From the employee focus area, there are pages with functionality for Employee Details, Employee List, Engagement and

Development and Engagement and Development List. From a project perspective, there is the Project Builder, Project Task Builder, and the Tasking to Employee pages.

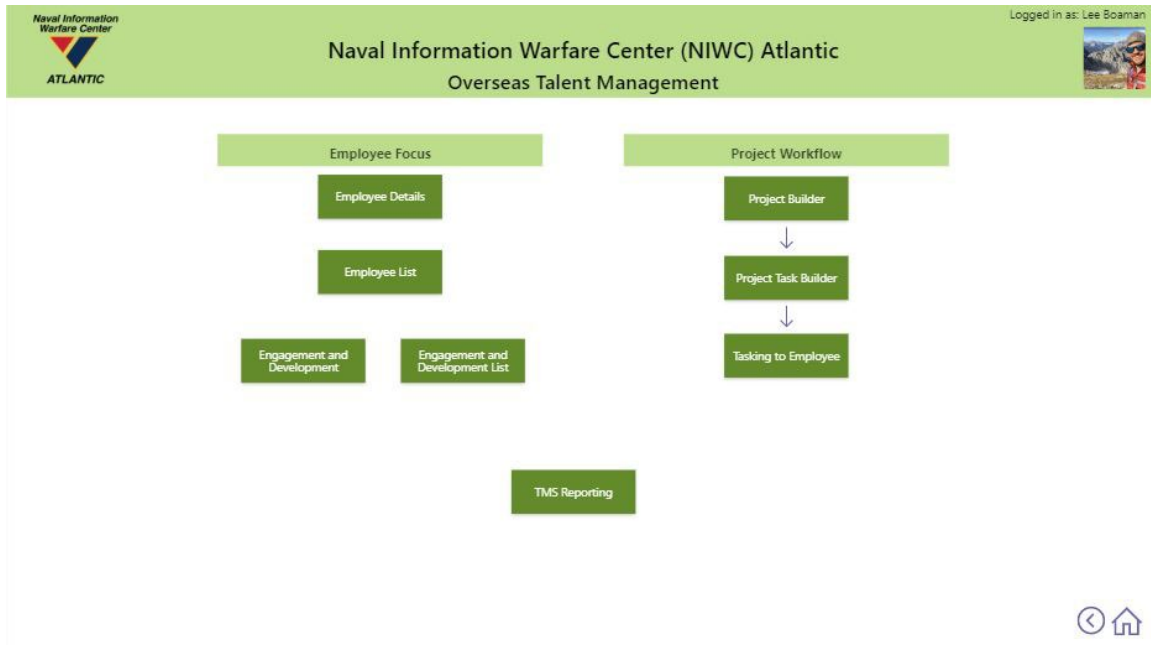


Figure 24. TMS Landing Page

3. Employee Details

The Employee Details page gives the functionality to create the data for each employee, first creating an instance of that data record, and then inserting the specific employee data. For example, the Name of the employee (which might be a place holder name in the case of a future hire), Location, and OCONUS tour start and end dates. The Primary CDM selection allows lookup of CDM options and assignment of that employee to a primary CDM. Status allows designation data between if the employee is on duty (“Filled”), on the way via PCS orders (“PCS In Progress”) or what type of hiring action it is (“Backfill” or “New”). To the left of the page is the list of the current employees in the data table for access in the need for editing. Figure 25 shows the page design.

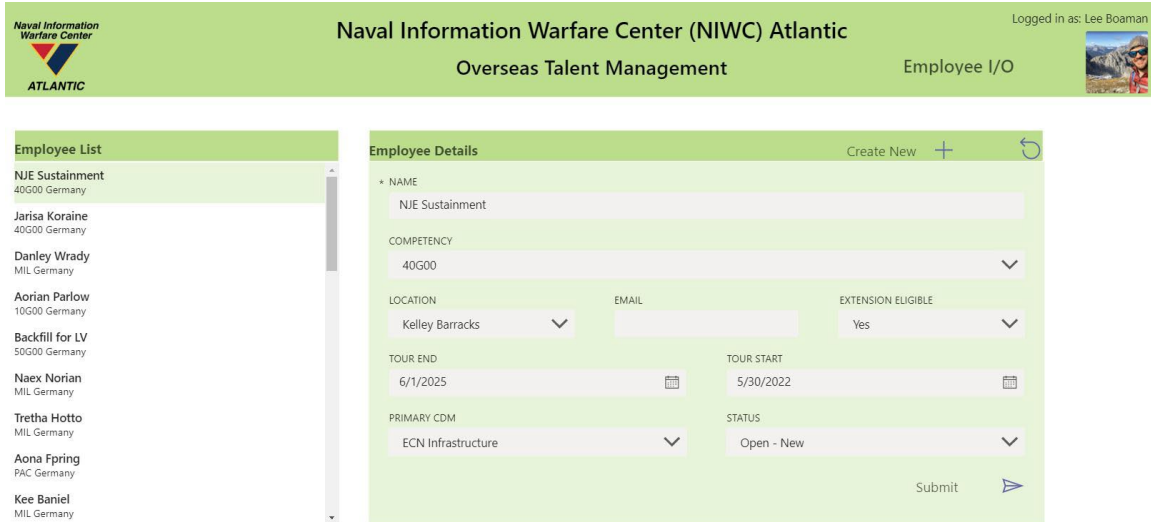


Figure 25. Employee Details

4. Employee Listing

Although the Employee Details page had a list of employees, this has shown to not be the simplest and most effective way for reviewing employees in the database (it would require scrolling and clicking each employee for the details), as well as filtering or searching the data. Figure 26 demonstrates the design and layout for this page. In a horizontal table, the data elements for the employee data record are shown. At the top of the page, several filtering functions are shown; the ability to filter by location, competency, or status. Additionally, there is a button used for exporting data to an excel file from this page. This functionality is later needed for pulling in data for the reporting functionality; later discussed.

Naval Information Warfare Center (NIWC) Atlantic
Overseas Talent Management
Employee List

Logged in as: Lee Boaman

Location: [Dropdown] Competency: [Dropdown] Status: [Dropdown] [Refresh]

Export Gallery to OneDrive Root

Name	Comp.	Location	Status	Start	End	Email	Phone	Primary CDM	Ext. Eligible?
NJE Sustainment	40G00	Kelley Barracks	Open - New	5/30/2022	6/1/2025			ECN Infrastructure	Yes
Jarisa Koraine	40G00	SAAF	Filled	1/3/2021	1/2/2024			Logistician	Yes
Danley Wradly	MIL	Patch Barracks	Filled	10/1/2021	9/30/2022			ECN Infrastructure	No
Aorian Parlow	10G00	Patch Barracks	Filled	7/4/2021	7/2/2022			Business Financial	Yes
Backfill for LV	50G00	Patch Barracks	Open - Backfill	4/1/2023	3/31/2025			Multimedia	Yes
Naex Norian	MIL	Patch Barracks	Filled	10/1/2020	9/30/2023			ECN Infrastructure	Yes
Tretha Hotto	MIL	Patch Barracks	Filled	10/1/2021	9/30/2022			Mobility and	Yes
Aona Fpring	PAC	Patch Barracks	PCS In Progress	7/15/2022	7/14/2025	aona.fpring@navy.mil	123456789	Enterprise	Yes
Kee Baniel	MIL	Patch Barracks	Filled	10/1/2020	9/30/2022			ECN Infrastructure	Yes

[Home] [Back]

Figure 26. Employee List

5. Engagement and Development

As discussed in Section II.E, employee retention is derivative on engagement, satisfaction of tasking and alignment of current tasking to career development plans. Therefore, the functionality of this page, in Figure 27, is to capture several data elements towards collating and utilizing this information in areas of retaining talent. By selecting the employee on the left-hand list, the user can capture those items that incentivize or motivate the employee (these are a lookup table drop down choices of Awards / Recognition, Monetary, Professional Development, Promotion or Tuition Reimbursement). By understanding what motivates the employee, the organization and supervisor can take appropriate and meaningful action when needed. Additionally, this page also captures short-term and long-term goals of the employee. The duration of short and long term are not capture here, but in an OCONUS environment should relate to PCS tour lengths.

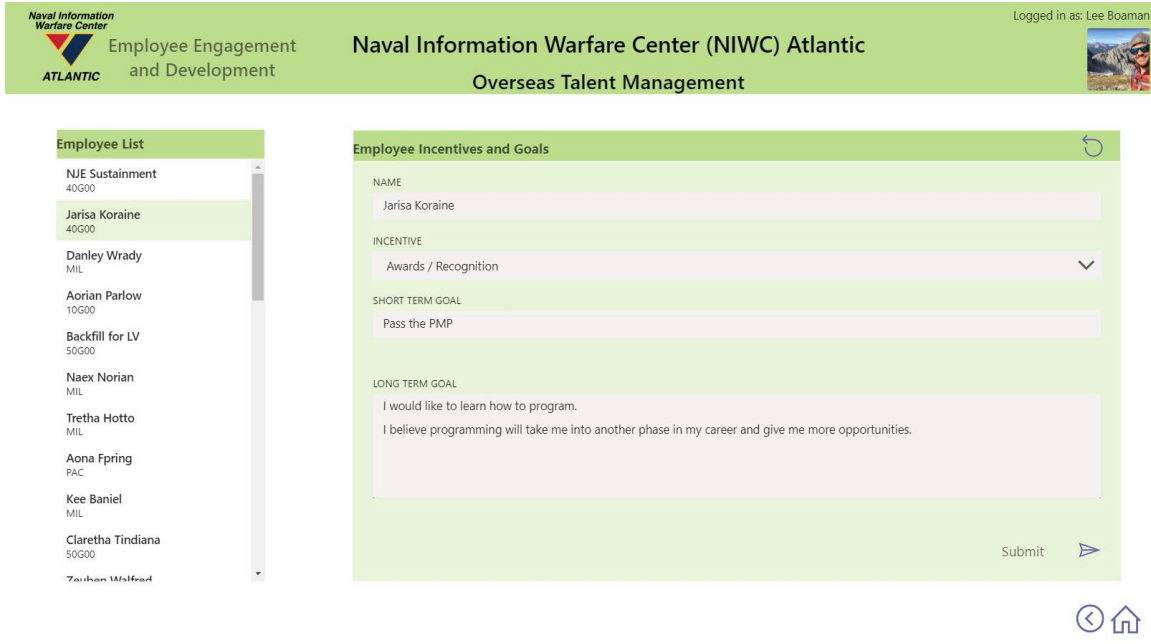


Figure 27. Engagement and Development

6. Engagement and Development Listing

Upon capturing all relevant and available on employee’s incentives and short/long-term goals, a consolidate list of this data is presented on Figure 28. From this page, the user (ideally the supervisor) can review data collected. Several filtering options are provided, such as the ability to filter by competency (useful for a supervisor’s review) and/or the incentive types. Filtering by incentive types is helpful for instances such as limited monetary awards budgets to identify who values these the most, or submission of tuition reimbursement applications for those that prioritize it.

Naval Information Warfare Center (NIWC) Atlantic
 Employee Engagement and Development
 Overseas Talent Management
 Logged in as: Lee Boaman

Name	Comp.	Incentives	Short Term	Long Term
NJE Sustainment	40G00			
Jarisa Koraine	40G00	Awards / Recognition	Pass the PMP	I would like to learn how to program. I believe programming will take me into another phase in my career and give me more opportunities.
Danley Wrady	MIL			
Aorian Parlow	10G00	Awards / Recognition	Learn PPBE	Become T4 Supervisor
Backfill for LV	50G00			
Naex Norian	MIL	Monetary	Study for PMP Exam	Pass PMP Exam
Tretha Hotto	MIL			
Aona Fpring	PAC			
Kee Baniel	MIL			

Figure 28. Engagement and Development Listing

7. Project Builder

The Project Building page, shown in Figure 29, is the first step in creating a project and task structure that can be mapped to employee tasking. In the prototype, IPTs are provided in the data tables, however in a full-scale production this would be pulled from NIWC Atlantic data repository or inserted via the user interface.

Upon selecting an IPT, the user creates a new project. IPTs are expected to have multiple projects and the number of projects varies from IPT to IPT. Details such as the name of the project, sponsor for the project (who provides funding), customer for whom the project is providing services and/or material, and schedule dates for the project are provided. Upon clicking the submit arrow, the project data entry is added to the list of records associated with the IPT's projects.

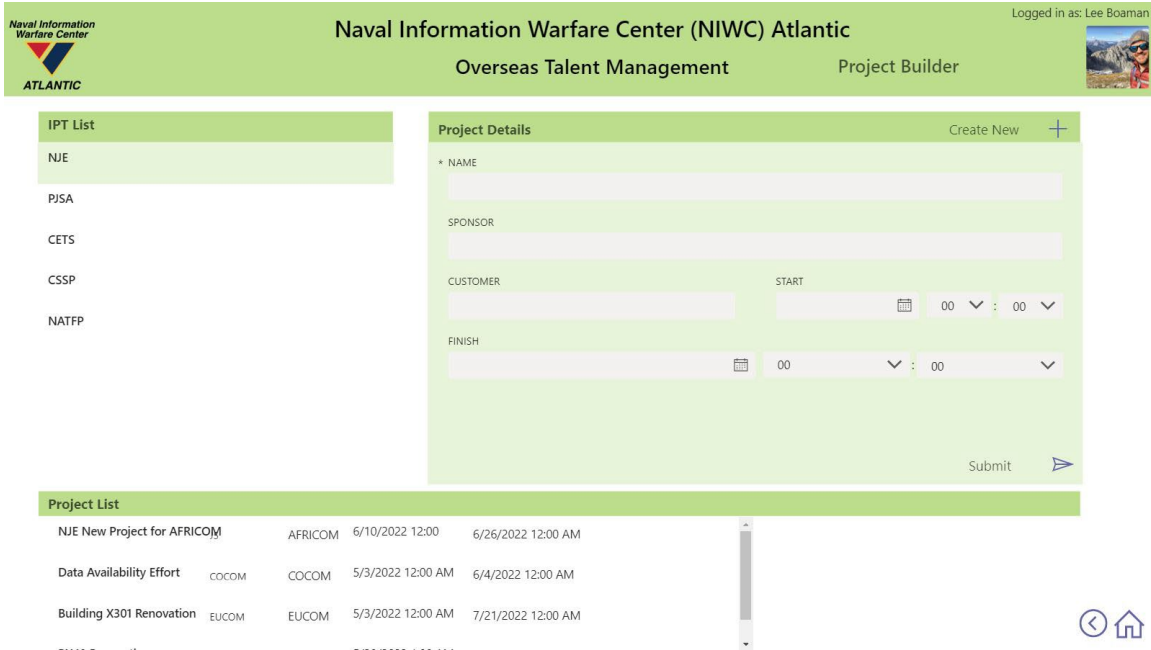


Figure 29. Project Builder

8. Project Task Builder

Further downstream from the IPT, each project has one to many tasks. Tasks can vary from being the Project Lead, the Subject Matter Expert (SME) for a particular technology area or Logistics Support. In Figure 30, the project tasks are built in an equivalent manner to the projects. Upon selection of a project, the user creates a data record for the task needed. The name of the task, CDM associated with the tasking, percentage of Full-Time Equivalent (FTE) and dates for the task (these may not align to the full duration of the project but should be within the schedule of the project). Upon submission of the task, the full list of tasks for the project are listed at the bottom of the screen.

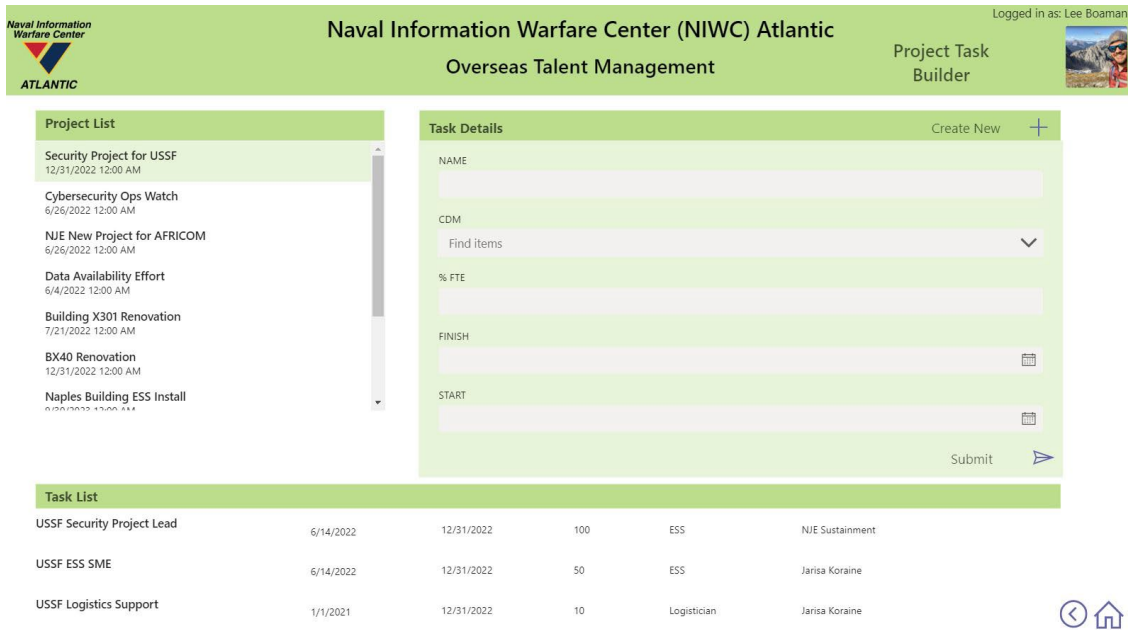


Figure 30. Project Task Builder

9. Tasking to Employee

The Tasking to Employee page of the TMS is where the employee data and the project and tasking data is tied together. This page is where taskings are assigned to employees based upon CDM's required of the task, CDM's assigned to the employee, durations of the task and tour of the employee.

Figure 31 demonstrates the interface of the page. To the left is the full list of tasks, with details of each shown with the task name. The name of the currently assigned employee to the task is shown in this table (if no name is shown, no employee is assigned to this task). To the right is a list of employees, with details shown for each. Shown here in addition to primary CDM assignment and tour dates are the number of tasks assigned, as well as the sum of FTE percentage assigned to tasks. The intent is for the user to have both of these tables available at the same time so that they can find available and appropriate employees to assign to current and upcoming tasks.

By clicking the task in the task list, the name of that selected task shows up in the bottom "Assignment Tool" window. Using the "Assigned To" dropdown, the user selects which employee is assigned to this task by clicking the submit arrow. The tool keeps track

of how many tasks are assigned to each employee as well as percentage of FTE. If the assigned amount of tasking goes over 100%, the background for the employee turns red, as shown in the figure.

Lastly, there is an export button on this page that exports tasking data with employee assignments to Excel on a selected OneDrive account. This functionality is built for reporting analysis.

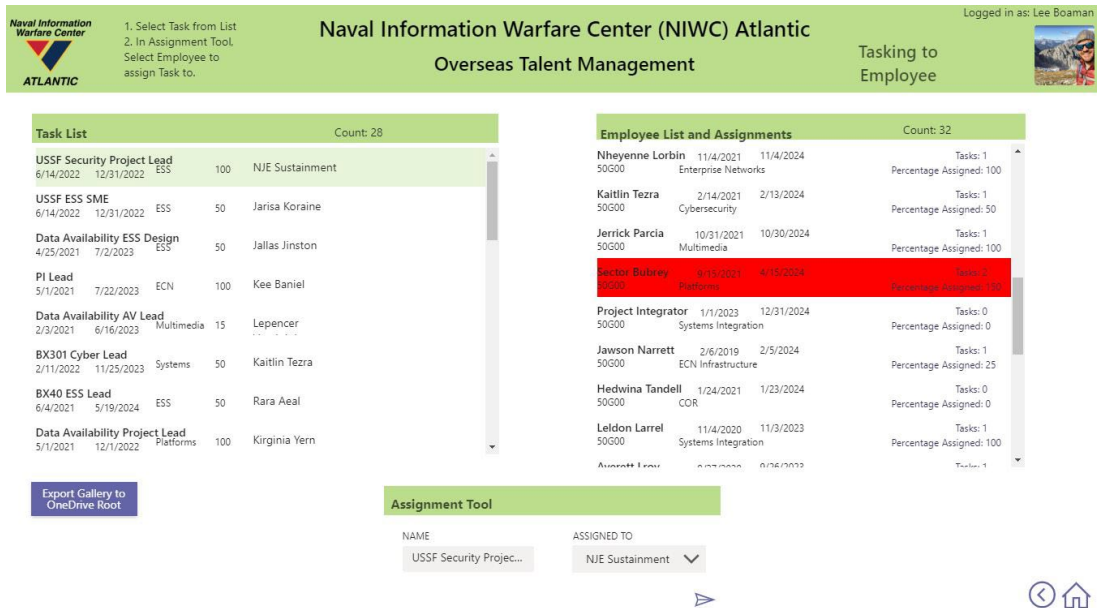


Figure 31. Tasking to Employee

10. TMS Reporting

Data stored in Dataverse from the PowerApps TMS application above is exported using the designed export buttons on the employee and tasking pages by calling a Power Automate cloud flow. The export button passes all data in the table selected (in this case the Employee and Tasking tables) as a Comma-separated Values (CSV) file to the cloud flow. Shown in Figure 32, the flow accepts that data from the PowerApps TMS, creates a CSV on the root folder of a mapped OneDrive account, and then passes back a Completed variable of “true” (this is used for troubleshooting from PowerApps if the export worked successfully).

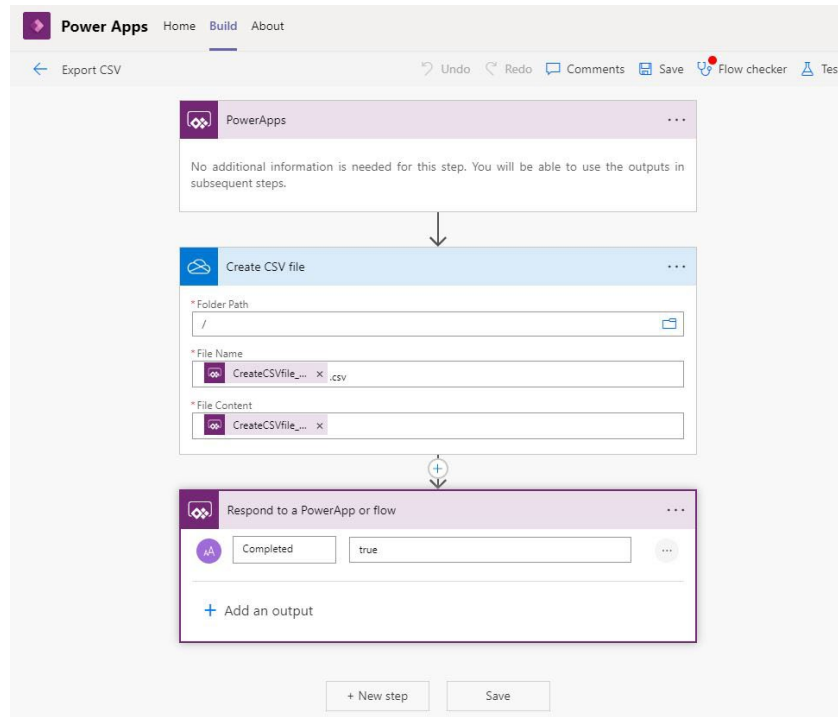


Figure 32. Export CSV Cloud Flow

Once data from the Employees and Tasking tables are stored in CSV files, these datasets can be imported into PowerBi. PowerBi was selected for data reporting as the visualization of data is more available in this toolset as compared to PowerApps. Out of the box, PowerApps graphs are limited to bar charts, line graphs and pie charts. PowerBi allows all of these in simpler interface, as well as a multitude of plug-in type data visualizations.

Three data reporting windows have been established for this reporting use case, based upon the requirements for reporting previously defined. First, a look at the competencies available talent capacity through the Employee view, shown in Figure 33. Here, there are charts representing count of employees by location, a table of employees by hiring status, a pie chart of employees primary CDMs, and a schedule diagram showing each employee's tour dates. From here the supervisor can identify where the primary footprint of the staff exists, how much turnover is in progress, how much turnover is to be expected, and what skillsets are found within the competency.

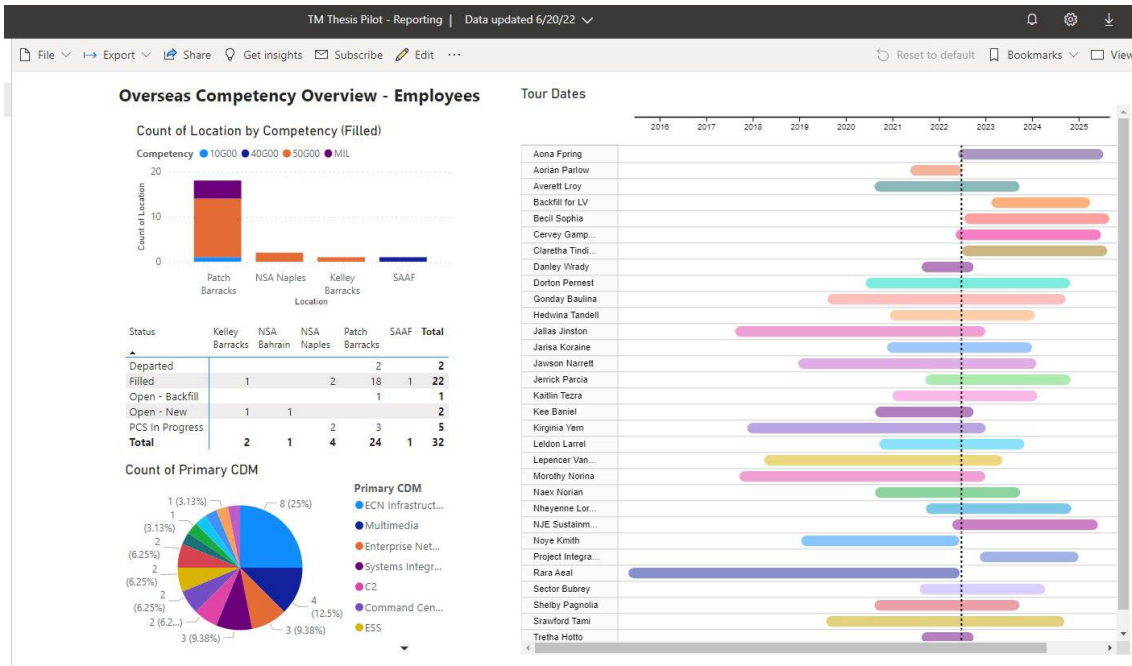


Figure 33. TMS Reporting – Employees

In Figure 34, a similar look is provided but with the focus on taskings. From this page, the culmination of the taskings' CDM relation is found in a pie chart, bar chart for employee assignments by FTE percentage and the durations of the tasks in a schedule (with assigned employee for each shown). From this page, the supervisor or IPT Lead can visualize what type of work is predominantly supported, how much work each employee is doing and where the forecasted tasking is in terms of schedule.

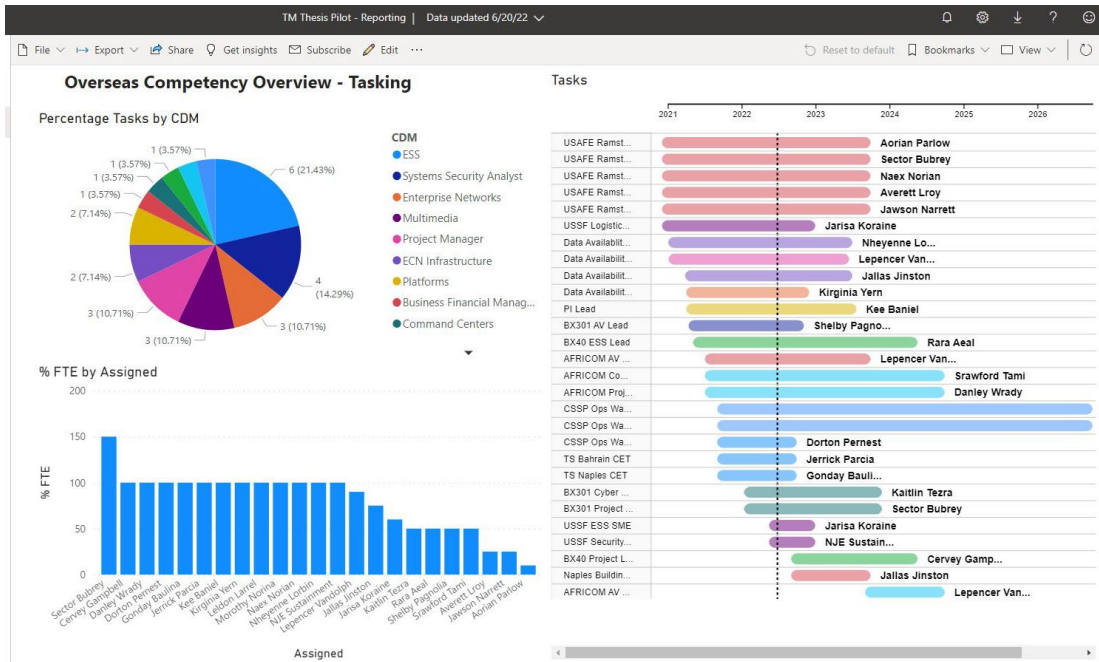


Figure 34. TMS Reporting – Tasking

Finally, the TMS reporting compares employee to tasking, as in Figure 35. Tables and filter selections are available on employee and tasking data. Utilizing this page, the supervisor or IPT Lead can navigate available bandwidth of employees or understanding the forecasting of future work. Additionally, the user gets data presented on the CDM assignment of the employee as well as the CDM assignments of the tasking.

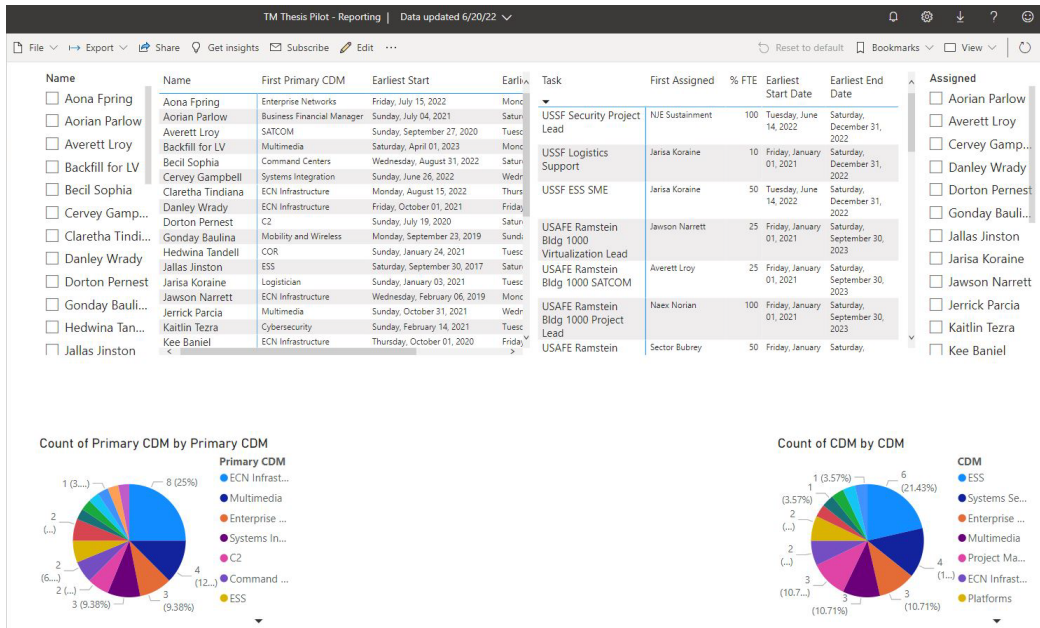


Figure 35. TMS Reporting

D. RESULTS OF PROTOTYPE AND SUMMARY

Overall, the prototype allowed experimentation and utilization of a TMS specifically designed for NIWC Atlantic operations. Employee relevant data for an OCONUS environment was able to be captured and analyzed. Business data with IPT relations were recorded and tasking was assigned to employees. This tasking to employee mapping does not exist at NIWC Atlantic today and the prototype provides immediate benefit to the Command by formalizing that employee to IPT relationship, as well as collecting this data for larger strategic analysis and decision making. Utilizing CDMs as the framework for describing employee skillsets to required tasking skillsets allows a common lexicon between competencies and IPTs. Employee development and engagement data collection provides advantage to the supervisor to ensure ability to maximize employee potential.

PowerApps, PowerBi and Power Automate allow significant customization to match NIWC Atlantic TMS needs without requiring substantial experience in software development.

Significant further development of this tool is feasible given time and appropriate infrastructure and would be necessary to further distribute and operationalize the concept. For instance, data between existing NIWC Atlantic platforms like JIRA, Work Acceptance or others should interface with the TMS, rather than inputting manually which IPTs exist. CDM applicability to employees should be expanded beyond just primary CDM assignments but include any and all other CDM assessments of the employee. Data transfer between tools internal to the TMS should be direct and not require exporting and importing CSV files. Data integrity features should be built into the system to reduce errors, such as not allowing a task to have a schedule that is outside of the project schedule.

Most importantly, reporting and analysis capabilities of the TMS should be expanded. Comparison of talent capacity to current and future tasking is required to be modeled and visualized. The TMS should automatically identify gaps in staffing where tasking requirements are not met (either CDMs are not available or tour dates outside the scope of project dates). This allows more proactive planning in issue resolution and supplies supervisors and IPT Leads an understanding of resources available today and in the future.

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V. CONCLUSION

The conclusion of this research includes a summary of the motivation and problem statement, activities taken in support of this research and further efforts that could be undertaken to take this topic further.

A. SUMMARY

Overseas PCS tours create unique challenges for resource planning and career development at NIWC Atlantic. These challenges exist in CONUS locations but are accelerated OCONUS and these issues are more quickly realized in time limited tours of three to five years. This study has looked at applicable research into methods that can benefit or address these challenges, created activity diagrams to decompose and determine systems requirements for a tooling solution, and developed a prototype system to support competency supervisors and business leads solve these challenges.

Talent Management strategies and tooling are effective ways to create overarching and tactical effects towards solving challenges associated with resource management, employee development and knowledge management. To forward plan for future organizational success, these talent management strategies are required to define talent needs, attract, develop, deploy, and retain talent. Utilization of CDMs provides a lexicon for business leads and resource managers to discuss current and future capabilities of the workforce. A data focus on employees allows avenues for accelerated management of workforce, better allowing current and future support of business objectives. A talent profile or management system better allows for collecting this data, analyzing talent and planning for future needs.

The entire DOD has room for improvement for management of its civilian workforce. As found in a Defense Business Board report, “civilian development is not seen as a priority in DOD culture” (Defense Business Board 2022). This finding is based upon the DOD’s limits in hiring personnel with the intention to future train them; only the immediate needs are focused upon, without forecasting and planning the future workforce of the organization. NIWC Atlantic and its management of systems engineers contributes

to these gaps and can improve upon its employee development and retention through talent management efforts. Focusing on these capabilities would provide immediate benefit to OCONUS PCS tours and consistent rotation of personnel. NIWC Atlantic's overseas presence is a small fraction of the total NIWC Atlantic workforce, however it is a microcosm of a larger talent management challenge.

B. FUTURE WORK

The developed TMS prototype demonstrated the ability to store employee data in a relational database, with information on each employee's CDM assignment, tour information and hiring status. It also created a method to capture project specific tasking, the taskings relationship to a CDM and duration of tasking. The tool mapped between tasks and employees to plan resources against business needs. Further development of this tool is needed to provide better analysis and guardrails on tour dates and task dates (for example, prevent assigning a task to someone that is not in theater), as well as cross referencing development goals of the employee to future tasking demands.

To create a truly beneficial and integrated TMS, the system would need to interface with other existing personnel management systems. For instance, NIWC Atlantic currently uses JIRA for resource demands and personnel actions, both of which could be feed from TMS. Performance review data could be imported from STRL management tools for capturing development data and career goals. TWMS and the TMS would need to share data, for capturing, approving and processing IDPs. There is significant future work in this endeavor to ensure all tools across the NIWC Atlantic and Navy enterprises are integrated.

Strategic mindset on data driven approaches would be required as a cultural shift within the organization. Understanding that the best way to make future business decisions for the Command, as well as creating strategies and avenues for its diverse and broad workforce, requires tooling and processes that are suited for these problem sets. The workforce must adjust to the management of its talent as Navy assets, looking at the current capability, but making strategic decisions that create actions now in benefit of future needs.

APPENDIX A. INTERVIEWS

Title	Takeaways
System of Systems Competency Manager	<ul style="list-style-type: none"> • Talent needs need to be captured for current demands and for the future demands of the organization • Suggestion to touch base with team from 52 that ran a Talent Management System proposal and Analysis of Alternatives, prior to PEO MLB cancelling the effort • Need to be sure to include employee information that is outside of CDMs, such as Education, Degrees, Certification and Mentors • If you have a trusting and respectful environment, people will be more willing to share feedback on performance. • Need to find ways to get feedback from the employees on the IPT Leads and Project Leads • The problem with TMS in the past is everyone has a different perspective. Supervisors want something different than HR wants. The requirement creep is a real challenge.
Communications and Networks Lead Systems Engineer	<ul style="list-style-type: none"> • Learned that the C&N competency had standardized their Individual Development Plan submissions and data capture in PowerApps
50G00 Employee and Team Lead	<ul style="list-style-type: none"> • There is no system that is capturing what each employee is working on. How do we know where people have gaps in workload or are overburdened? • Need to do a better job with a system that captures OCONUS rotation planning to ensure there are no gaps in coverage
Deputy Technical Director, PEO Manpower Logistics Business Solutions (MLB)	<ul style="list-style-type: none"> • NIWC Atlantic had been supporting PMW 250 for several years doing market research, requirements definition, pilots and developing acquisition strategies for a TMS. • Had reviewed and compared several COTS and GOTS products, and had started a pilot • A lot of the focus was on the acquisition community and ensuring succession planning (particularly for executive staff). Wanted to have a ready locker of 5–6 candidates in the event of an employee’s departure—can’t afford to have gaps. • Program ended due to lack of funding in 2019
Process and Requirements IPT Lead	<ul style="list-style-type: none"> • Spent three years working a talent management effort with Mr. Harrington and others. • 5.2 Competency Managers were involved in developing the requirements for this talent management system proposal

Title	Takeaways
	<ul style="list-style-type: none"> • Larger Navy efforts overcame NIWC Atlantic's efforts • Cornerstone was a top contender product; potentially in use by other NWCFs • Currently working efforts to digitize and automate processes for PD's and hiring packages • Found it challenging to get people to invest (time and money) into a talent management product without demonstrating a tool
Total Force Management Senior Competency Manager	<ul style="list-style-type: none"> • Discussed the challenge of tracking employees between IPTs • Discussed the challenge of forecasting work, year to year or further out • Hard to control attrition • The need to reflect data back to higher commands

APPENDIX B. TALENT MANAGEMENT SYSTEM ACTIONS

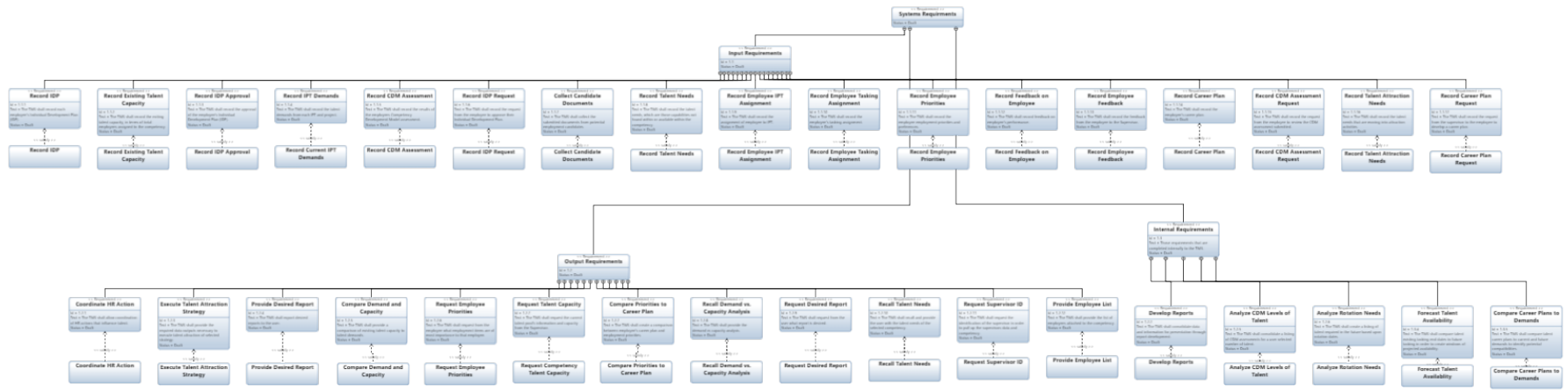
Number	Name
UC.0	Talent Management System Use Case Diagram
UC.1	Define Talent Needs
UC.1.1	Initiate Session
UC.1.2	Provide ID
UC.1.3	Send Talent Capacity
UC.1.4	Review Demand and Capacity Analysis
UC.1.5	Is Talent Available?
UC.1.7	Define Talent Needs
UC.1.8	Request Supervisor ID
UC.1.9	Request Competency Talent Capacity
UC.1.10	Record Existing Talent Capacity
UC.1.11	Record Current IPT Demands
UC.1.12	Record Future IPT Demands
UC.1.13	Compare Demand and Capacity
UC.1.14	Record Talent Needs
UC.1.15	Transmit Business Demands
UC.2	Attract Talent
UC.2.4	Recall Talent Needs
UC.2.5	Confirm Talent Needs
UC.2.6	Record Talent Attraction Needs
UC.2.7	Select Attraction Strategy
UC.2.8	Execute Talent Attraction Strategy
UC.2.9	Provide Candidate Documentation
UC.2.10	Collect Candidate Documents
UC.2.11	Evaluate Candidates
UC.2.12	Coordinate HR Action
UC.3	Develop Talent
UC.3.1	Provide Employee List
UC.3.2	Request Employee Career Plan
UC.3.3	Record Career Plan Request
UC.3.4	Develop/Update Career Plan
UC.3.5	Record Career Plan
UC.3.6	Provide Career Plan Feedback
UC.3.7	Request CDM Assessment
UC.3.8	Record CDM Assessment Request
UC.3.9	Assess Against CDM

UC.3.10	Record CDM Assessment
UC.3.11	Evaluate CDM Assessment
UC.3.12	Request Individual Development Plan
UC.3.13	Record IDP Request
UC.3.14	Create IDP
UC.3.15	Record IDP
UC.3.16	Approve IDP
UC.3.17	Record IDP Approval
UC.3.18	Execute IDP
UC.3.19	Request Employee Education/Certifications
UC.3.20	Record Education and Certification Request
UC.3.21	Provide Education and Certifications
UC.3.22	Record Education and Certification Data
UC.4	Deploy Talent
UC.4.1	Provide Talent Needs
UC.4.1	Recall Demand vs. Capacity Analysis
UC.4.2	Receive Talent Needs
UC.4.2	Select Available Resource
UC.4.3	Accept IPT Assignment
UC.4.4	Accept Employee Assignment
UC.4.5	Record Employee IPT Assignment
UC.4.6	Assign Tasking
UC.4.7	Accept Tasking
UC.4.8	Request Tasking
UC.4.9	Record Employee Tasking Assignment
UC.5	Retain Talent
UC.5.1	Request Employee Priorities
UC.5.2	Provide Employee Priorities
UC.5.3	Record Employee Priorities
UC.5.4	Compare Priorities to Career Plan
UC.5.5	Review Priorities with Career Plans
UC.5.6	Implement Priority Requests
UC.5.7	Prioritize Positive Work Environment
UC.5.8	Implement Awards Initiatives
UC.5.9	Request Employee Feedback
UC.5.10	Provide Feedback on Employee
UC.5.11	Provide Feedback on Job
UC.5.12	Receive Feedback on Performance
UC.5.13	Record Employee Feedback
UC.5.14	Record Feedback on Employee

UC.5.15	Receive Feedback on Employee
UC.6	Analyze Talent
UC.6.1	Develop Reports
UC.6.2	Provide Desired Report
UC.6.3	Compare Career Plans to Demands
UC.6.4	Analyze Rotation Needs
UC.6.5	Analyze CDM Levels of Talent
UC.6.6	Forecast Talent Availability
UC.6.7	Request Desired Report
UC.6.8	Select Report
UC.6.9	Receive Report



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APPENDIX C. SYSTEM REQUIREMENTS TO ACTION MAPPING



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APPENDIX D. PROTOTYPE TABLE CONTENTS

 CDM LEVELS 

 Name ↑
Advanced
Entry
Expert
Intermediate
<i>Enter text</i>


 CDMS 

	Name ↑	COMPETENCY ↓
	Business Financial Manager	10G00
	C2	52000
	Command Centers	52000
	COR	
<input type="radio"/>	Cybersecurity	
	ECN Infrastructure	
	Enterprise Networks	
	ESS	52000
	Logistician	
	Mobility and Wireless	
	Multimedia	
	Operating Systems	
	Platforms	52000
	Program Manager	
	Project Manager	
	Research and Applied Science	
	SATCOM	
	Systems Integration	
	Systems Security Analyst	
	Virtualization	
	<i>Enter text</i>	<i>Select lookup</i>

 **COMPETENCIES** 

 CODE* ↑ ↓	 NAME ↓	 SUPERVISOR ↓
01B00		
10G00		
40G00	Overseas Logistics and Lifecycle E...	
50G00	Overseas Engineering	Lee Boaman
52000	System of Systems Engineering	
MIL	Military Personnel	
PAC		
<i>Enter text</i>	<i>Enter text</i>	<i>Enter text</i>

 **EMP_INCENTIVES** 

 Name* ↑ ↓
Awards / Recognition
Monetary
Professional Development
Promotion
Tuition Reimbursment
<i>Enter text</i>

EMPLOYEES

NAME	COMPLETE	EMAIL	EXTEN	INCENTIVE	LOCATION	LONG TERM GOAL	PHONE	PRIMARY CDM	SHORT TERM G.	STATUS	TOUR END	TOUR START
Aona Spring	PAC	aona.spring@navy...	<input checked="" type="checkbox"/> Yes		Patch Barracks		1234567...	Enterprise Networks		PCS In Progress	7/14/2025	7/15/2022
Aorian Parlow	10G00		<input checked="" type="checkbox"/> Yes	Awards / Recognition	Patch Barracks	Become T4 Supervisor		Business Financial Ma...	Learn PPBE	Filled	7/2/2022	7/4/2021
Averett Lroy	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			SATCOM		Filled	9/26/2023	9/27/2020
Backfill for LV	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			Multimedia		Open - Backfill	3/31/2025	4/1/2023
Becl Sophia	50G00		<input checked="" type="checkbox"/> Yes		NSA Naples			Command Centers		PCS In Progress	8/30/2025	8/31/2022
Cervey Campbell	50G00		<input checked="" type="checkbox"/> Yes		NSA Naples			Systems Integration		PCS In Progress	6/25/2025	6/28/2022
Cianora Tindiana	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			ECN Infrastructure		PCS In Progress	8/14/2025	8/15/2022
Darley Wrazy	MIL		<input type="checkbox"/> No		Patch Barracks			ECN Infrastructure		Filled	9/30/2022	10/1/2021
Dorton Pernett	50G00	dorton.pernett@...	<input type="checkbox"/> No		Kalley Barracks			C2		Filled	10/26/2024	7/19/2020
Gonday Baulina	50G00	gonday.baulina@...	<input type="checkbox"/> No		NSA Naples			Mobility and Wireless		Filled	9/22/2024	9/23/2019
Hedvina Tandell	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			COR		Filled	1/23/2024	1/24/2021
Jallas Jinton	50G00	jallas.jinton@navy...	<input type="checkbox"/> No		Patch Barracks			ESS		Filled	12/31/2022	9/30/2017
Jarisa Koraine	40G00		<input checked="" type="checkbox"/> Yes	Awards / Recognition	SAAF	I would like to learn h...		Logistician	Pass the PMP	Filled	1/2/2024	1/3/2021
Jaxson Namett	50G00		<input type="checkbox"/> No		Patch Barracks			ECN Infrastructure		Filled	2/5/2024	2/6/2019
Jerrick Parcia	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			Multimedia		Filled	10/30/2024	10/31/2021
Kaitlin Teza	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			Cybersecurity		Filled	2/13/2024	2/14/2021
Kee Daniel	MIL		<input checked="" type="checkbox"/> Yes		Patch Barracks			ECN Infrastructure		Filled	9/30/2022	10/1/2020
Virginia Vern	50G00	virginia.vern@navy...	<input type="checkbox"/> No		Patch Barracks			ECN Infrastructure		Filled	1/3/2023	1/2/2018
Leldon Lamel	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			Systems Integration		Filled	11/3/2023	11/4/2020
Leopencer Vandolph	50G00		<input type="checkbox"/> No		Patch Barracks			Multimedia		Filled	5/14/2023	5/15/2018
Mooreby Norina	50G00	mooreby.norina	<input type="checkbox"/> No		NSA Naples			C2		Filled	12/31/2022	11/1/2017
Naxen Nolan	MIL		<input checked="" type="checkbox"/> Yes	Monetary	Patch Barracks	Pass PMP Exam		ECN Infrastructure	Study for PMP Exam	Filled	9/30/2023	10/1/2020
Nheyenne Lorbin	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			Enterprise Networks		Filled	11/4/2024	11/4/2021
NIE Sustainment	40G00		<input checked="" type="checkbox"/> Yes		Kalley Barracks			ECN Infrastructure		Open - New	6/1/2025	5/30/2022
Noye Kimb	50G00	noye.kimb@navy...	<input checked="" type="checkbox"/> Yes		Patch Barracks			Command Centers		Departed	6/10/2022	3/1/2019
Project Integrator	50G00		<input checked="" type="checkbox"/> Yes		NSA Bahrain			Systems Integration		Open - New	12/31/2024	1/1/2023
Rara Aael	50G00	rara.aael@navy.mil	<input type="checkbox"/> No		Patch Barracks			ESS		Departed	6/13/2022	6/15/2015
Santor Bubrey	50G00		<input type="checkbox"/> No		Patch Barracks			Platforms		Filled	4/15/2024	9/15/2021
Shelby Pagnolia	50G00		<input checked="" type="checkbox"/> Yes		Patch Barracks			Multimedia		Filled	9/25/2023	9/26/2020

IPTS

Name	UID
CETS	
CSSP	
NATFP	
NIE	
PJSA	
Enter text	Enter text

LOCATIONS

	BASE * ↑ ↓	CITY ↓	COUNTRY ↓
	Kelley Barracks	Stuttgart	Germany
	NSA Bahrain	Bahrain	Bahrain
	NSA Naples	Naples	Italy
<input type="radio"/>	Patch Barracks	Stuttgart	Germany
	SAAF	Stuttgart	Germany
	<i>Enter text</i>	<i>Enter text</i>	<i>Enter text</i>

PROJECTS

NAME * ↑ ↓	CUSTOMER ↓	START ↓	FINISH ↓	IPT ↓	SPONSOR ↓
Building X301 Renovation	EUCOM	5/3/2022	7/21/2022	NJE	EUCOM
BX40 Renovation	C6F	5/28/2022	12/31/2022	NJE	CNIC
Cybersecurity Ops Watch	DHA	6/2/2022	6/26/2022	CSSP	DHA
Data Availability Effort	COCOM	5/3/2022	6/4/2022	NJE	COCOM
Naples Building ESS Install	C6F	10/1/2021	9/30/2023	NATFP	CNIC
NJE New Project for AFRICOM	J5	6/10/2022	6/26/2022	NJE	AFRICOM
Security Project for USSF	USSF	6/14/2022	12/31/2022	PJSA	USSF
Telecom Station Bahrain CET Lead	Telecom Station Bahrain	10/1/2021	9/30/2022	CETS	C10F
Telecom Station Naples CET Lead	Telecom Station Naples	10/1/2021	9/30/2022	CETS	C10F
USAFE Ramstein Bldg 1000	USAFE	10/1/2020	9/29/2023	PJSA	USAFE
<i>Enter text</i>	<i>Enter text</i>	<i>Enter or pick date</i>	<i>Enter or pick date</i>	<i>Select lookup</i>	<i>Enter text</i>

PROJECT UNITS

Name ↑ ↓	IPT ↓
AFRICOM	NJE
EUCOM	NJE
Navy	NJE
<input type="radio"/> USAFE	PJSA
DHA	CSSP
<i>Enter text</i>	<i>Select lookup</i>

STATUSES

NAME * ↑ ↓
Departed
Filled
Open - Backfill
Open - Gapped
Open - New
PCS In Progress
<i>Enter text</i>

TASKINGS

NAME ↑ ↓	% FTE ↓	ASSIGNED TO ↓	CDM ↓	START ↓	FINISH ↓	PROJECT ↓
AFRICOM AV Lead	25	Lepencer Vandolph	Multimedia	8/1/2021	9/30/2023	NJE New Project for AFRICOM
AFRICOM AV Lead	50	Lepencer Vandolph	Multimedia	10/1/2023	9/30/2024	NJE New Project for AFRICOM
AFRICOM Command Center Lead	50	Srawford Tami	Command Centers	8/1/2021	9/30/2024	NJE New Project for AFRICOM
AFRICOM Project Lead	100	Danley Wradly	Project Manager	8/1/2021	9/30/2024	NJE New Project for AFRICOM
BX301 AV Lead	50	Shelby Pagnolia	ESS	5/12/2021	11/5/2022	Building X301 Renovation
BX301 Cyber Lead	50	Kaitlin Tezra	Systems Security Analyst	2/11/2022	11/25/2023	Building X301 Renovation
BX301 Project Lead	100	Sector Bubrey	Platforms	2/11/2022	11/25/2023	Building X301 Renovation
BX40 ESS Lead	50	Rara Aaal	ESS	6/4/2021	5/19/2024	BX40 Renovation
BX40 Project Lead	100	Cervey Gampbell	Project Manager	10/1/2022	5/19/2024	BX40 Renovation
CSSP Ops Watch Analyst 1	100	Morothy Norina	Systems Security Analyst	10/1/2021	9/30/2026	Cybersecurity Ops Watch
CSSP Ops Watch Analyst 2	100	Leidon Larrei	Systems Security Analyst	10/1/2021	9/30/2026	Cybersecurity Ops Watch
CSSP Ops Watch Lead	100	Dorton Pernest	Systems Security Analyst	10/1/2021	9/30/2022	Cybersecurity Ops Watch
Data Availability AV Lead	15	Lepencer Vandolph	Multimedia	2/3/2021	6/16/2023	Data Availability Effort
Data Availability ESS Design	50	Jallas Jinston	ESS	4/25/2021	7/2/2023	Data Availability Effort
Data Availability Project Lead	100	Kinginia Yern	Platforms	5/1/2021	12/1/2022	Data Availability Effort
Data Availability Network Enginee...	100	Nheyenne Lorbin	Enterprise Networks	2/1/2021	7/2/2023	Data Availability Effort
Naples Building ESS Engineer	25	Jallas Jinston	ESS	10/1/2022	9/30/2023	Naples Building ESS Install
PI Lead	100	Kee Baniel	ECN Infrastructure	5/1/2021	7/22/2023	Building X301 Renovation
TS Bahrain CET	100	Jerrick Parcia	Enterprise Networks	10/1/2021	9/30/2022	Telecom Station Bahrain CET Lead
TS Naples CET	100	Gonday Baulina	Enterprise Networks	10/1/2021	9/30/2022	Telecom Station Naples CET Lead
USAFE Ramstein Bldg 1000 BFM	10	Aorian Parlow	Business Financial Manager	1/1/2021	9/30/2023	USAFE Ramstein Bldg 1000
USAFE Ramstein Bldg 1000 PI/AI	50	Sector Bubrey	ECN Infrastructure	1/1/2021	9/30/2023	USAFE Ramstein Bldg 1000
USAFE Ramstein Bldg 1000 Projec...	100	Naex Norlan	Project Manager	1/1/2021	9/30/2023	USAFE Ramstein Bldg 1000
USAFE Ramstein Bldg 1000 SATC...	25	Averett Loy	SATCOM	1/1/2021	9/30/2023	USAFE Ramstein Bldg 1000
USAFE Ramstein Bldg 1000 Virtua...	25	Jawson Narrett	Virtualization	1/1/2021	9/30/2023	USAFE Ramstein Bldg 1000
USSF ESS SME	50	Jarisa Koraine	ESS	6/14/2022	12/31/2022	Security Project for USSF
USSF Logistics Support	10	Jarisa Koraine	Logistician	1/1/2021	12/31/2022	Security Project for USSF
USSF Security Project Lead	100	NJE Sustainment	ESS	6/14/2022	12/31/2022	Security Project for USSF

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