



# Defense Acquisition Workforce Key Information

Engineering

As of FY16 (30 September 2016)



## Overview

- AT&L HCI is committed to providing the Functional Leader and FIPT Executive Secretary up-to-date key workforce information on a quarterly basis – we welcome questions and recommendations for improved information and analysis support
- HCI provides defense acquisition workforce-wide updates online also at [http://hci.dau.mil/inf\\_sum.html](http://hci.dau.mil/inf_sum.html)
- Key HCI support contacts
  - **HCI Functional Leader/FIPT Liaison is currently vacant**
  - **HCI Data/Analysis**
    - **Mrs. Adrienne Evertson (adrienne.evertson@hci.mil)(703-805-2338)**



## Slide Index



<b>Slide Title</b>	<b>#</b>
Slide Index	3
Fact Sheet	4
Highlights	5
Total Workforce	6-7
AWF Size by Component and Career Field	8
Historical Size by Component FY05 – FY16Q2	9
DAWIA Certification by Component	10
Historical DAWIA Certification	11
DAWIA Certification Matrix + Bench Strength	12
Demographics	13-14
RAND NDRI Forces and Resources Policy Center Gain/Loss and Retirement Information	15-24
End	25



# Fact Sheet



Human Capital Fact Sheet								
Defense Acquisition Workforce Engineering	FY 2008				FY2016Q4			
	Engineering Civilian (Civ)	Engineering Military (Mil)	Total Engineering (Civ+Mil)	Defense Acquisition Workforce	Engineering Civilian (Civ)	Engineering Military (Mil)	Total Engineering (Civ+Mil)	Defense Acquisition Workforce
<b>Size &amp; Composition</b>								
Workforce Size	32,385	2,116	34,501	125,879	40,901	1,537	42,438	161,469
Change in size from 2008	-	-	-	-	26%	-27%	23%	28%
Civilian/Military Composition	94%	6%	-	88% / 12%	96%	4%		90% / 10%
<b>Educational Attainment</b>								
Bachelor's Degree or Higher	98%	95%	98%	77%	98%	98%	98%	84%
Graduate Degree	36%	45%	36%	29%	41%	65%	42%	39%
<b>Certification</b>								
Level I or Higher Achieved	78%	57%	77%	72%	88%	79%	88%	85%
Level II or Higher Achieved	70%	25%	68%	61%	76%	53%	75%	73%
Level III Achieved	58%	8%	55%	36%	57%	23%	56%	43%
Position Certification Requirement Met or Exceeded	67%	31%	64%	58%	81%	61%	80%	75%
Within 24 Months of Certification Requirement	18%	52%	20%	27%	17%	35%	18%	22%
Does Not Meet Certification Requirement	15%	17%	15%	14%	2%	4%	2%	3%
<b>Planning Considerations</b>								
% Baby Boomer / Traditional Gen.	60%	8%	57%	62%	32%	0%	31%	33%
Average Age	44.6	32.5	43.8	45.7	43.6	32.2	43.2	44.9
Workforce Life-Cycle Model (YRE)*								
% Future/Mid-Career/Senior	27/24/49(%)	-	-	20/23/57 (%)(Civ)	34/21/45(%)	-	-	26/25/50(%)
Average Years of Service	16.7	8.9	16.2	17.3	15.2	9.3	15.0	15.0
Retirement Eligible*	3,965(12%)	-	-	19,051(17%) (Civ)	6,762(17%)	-	-	25,712(18%)
Retirement Eligible w/in 5 Years*	4,804(15%)	-	-	21,315(19%) (Civ)	7,063(17%)	-	-	25,920(18%)
Total Gains/Losses*	4,050/4,197	-	-	14,245/15,030 (Civ)	4,343/2,865	-	-	15,815/10,997

Source: The Human Capital Fact Sheet is based on end of FY2008 and FY2016Q4 data and was generated by OUSD(AT&L)/Human Capital Initiatives using the AT&L Workforce Data Mart.

\*Analysis support from RAND using FY2008 and FY2016Q4 DMDC data.



# Highlights



## Defense Acquisition Workforce Size Highlights

- The current Engineering Defense Acquisition Workforce count is 42,438, up from 34,537 in FY08, a total increase of 7,901
- The Engineering Defense Acquisition Workforce count was at its highest point 42,438 in FY16Q4, and its lowest point (34,537) in FY08
- The Agencies with the largest increases, since FY08, are DCMA, DTRA, and MDA, with increases of 40 (571%), 989 (351%) and 320 (114%), respectively
- The Agencies with the largest decreases, since FY08, are DLA, DISA, and Army, with decreases of 6 (-32%), 19 (-21%), and 1629 (-15%), respectively

## Defense Acquisition Workforce DAWIA Certification Highlights

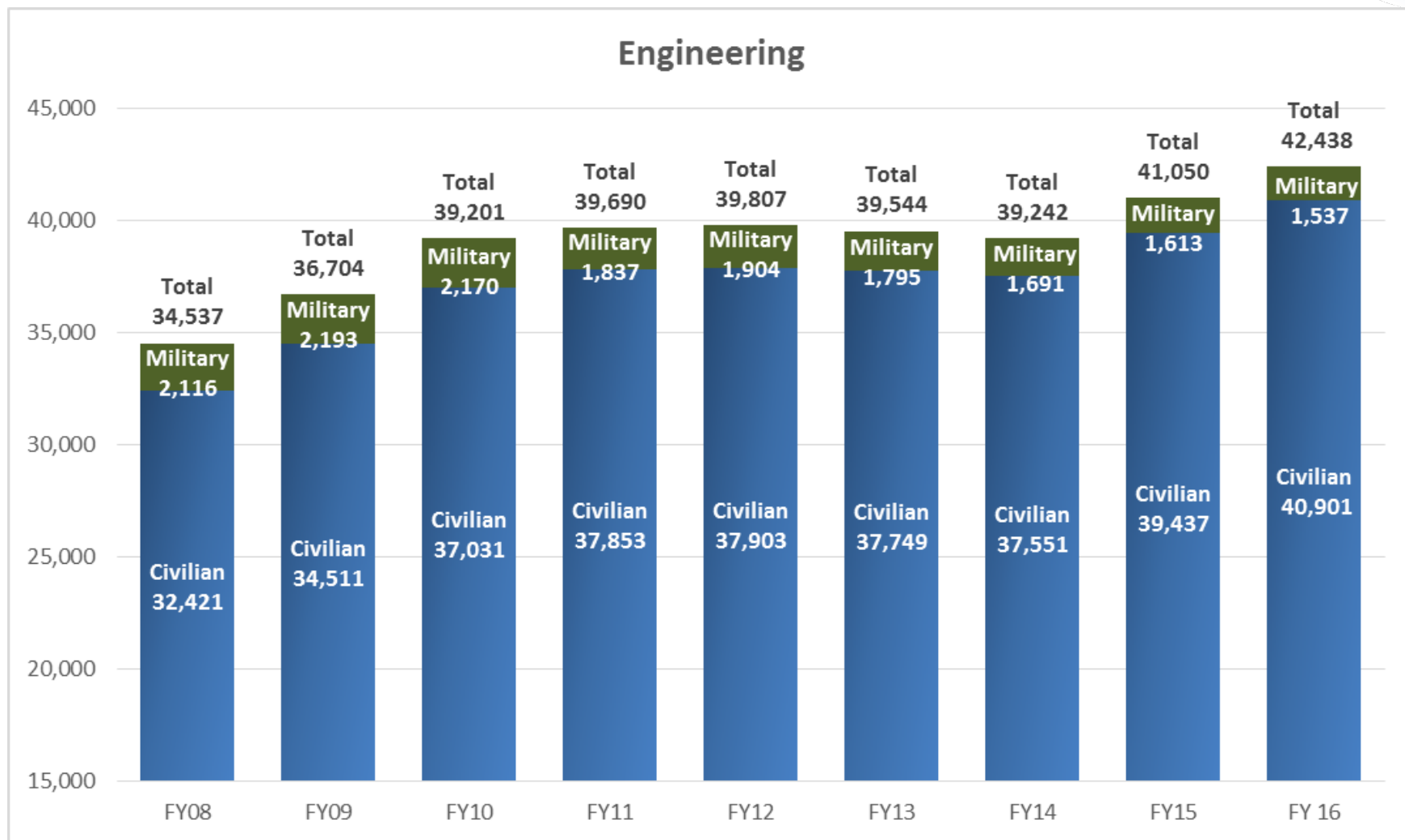
- The current Engineering Defense Acquisition Workforce DAWIA Meets/Exceeds certification rate is 80.4%; up from 64.3% in FY08
- The current Engineering Meets/Exceeds certification rate is up 16.2% from FY08
- The current Engineering Defense Acquisition Workforce DAWIA 24 month grace period rate is 17.5%; down from 20.5% in FY08
- The current Engineering Defense Acquisition Workforce DAWIA Does Not Meet certification rate is 2%; down from 15.2% in FY08

## Defense Acquisition Workforce Retirement Eligibility Highlights

- Senior Career Group 44.6% (18,236) (10 years or less to retirement eligibility or retirement eligible)
- 16.6% (6,762) are currently eligible to retire, ↑ from 12.3% in FY08
- Mid Career Group 21.4% (8,733) (11 to 20 years to retirement), down from 24.1% in FY08
- Future Career Group 34% (13,883) (21 to 25+ years to retirement), up from 26.6% in FY08



# Engineering Total Workforce

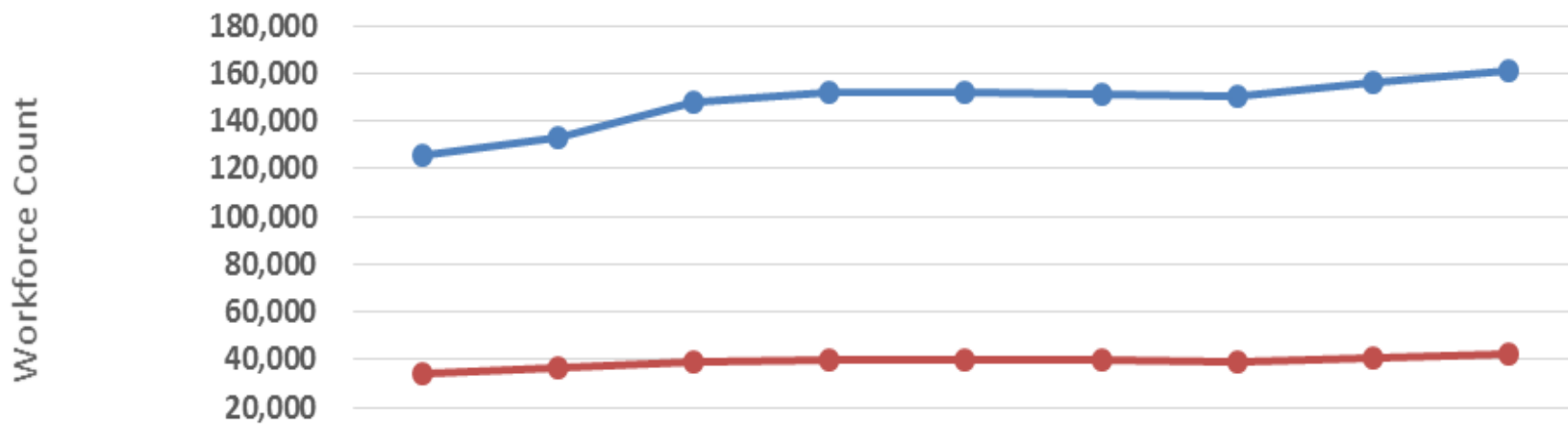




# Engineering Total Workforce



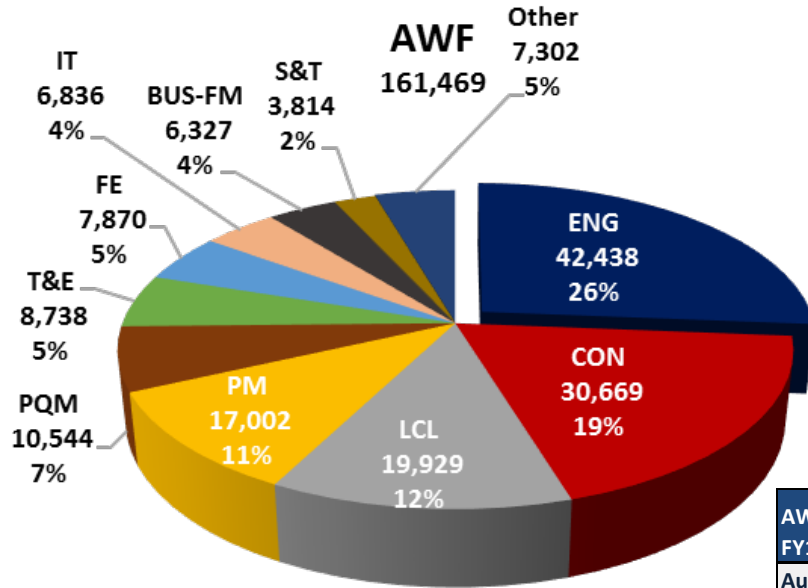
## AWF - Historical Workforce Size FY08 -FY16



	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16
● Total AWF	125,879	133,103	147,705	151,891	152,326	151,355	150,465	156,313	161,469
ENG % of Total AWF	22%	23%	25%	25%	25%	25%	25%	26%	27%
● ENG Workforce	34,537	36,704	39,201	39,690	39,807	39,544	39,242	41,050	42,438



# AWF by Component and Career Field



AWF Count by Career Category FY16Q4	Army	Navy	Marine Corps	Air Force	4th Estate	Totals	% Total
Auditing	-	-	-	-	4,011	4,011	2.5%
Business - CE	249	552	36	458	83	1,378	0.9%
Business - FM	1,718	1,849	172	2,008	580	6,327	3.9%
Contracting	7,959	5,802	545	8,452	7,911	30,669	19.0%
Engineering	9,140	21,623	354	9,139	2,182	42,438	26.3%
Facilities Engineering	1,797	5,456	34	498	85	7,870	4.9%
Information Technology	1,701	2,806	238	1,235	856	6,836	4.2%
Life Cycle Logistics	7,160	5,961	595	3,237	2,976	19,929	12.3%
Production, Quality and Man	1,407	3,210	39	393	5,495	10,544	6.5%
Program Management	3,240	5,560	802	5,681	1,719	17,002	10.5%
Property	53	65	-	14	273	405	0.3%
Purchasing	365	424	52	67	567	1,475	0.9%
S&T Manager	447	537	2	2,708	120	3,814	2.4%
Test and Evaluation	1,903	3,239	133	3,082	381	8,738	5.4%
Unknown/Other	7	2	-	3	21	33	0.02%
<b>FY16Q4 Totals (as of 9-30-2016)</b>	<b>37,146</b>	<b>57,086</b>	<b>3,002</b>	<b>36,975</b>	<b>27,260</b>	<b>161,469</b>	
<b>Component %</b>	<b>23.0%</b>	<b>35.4%</b>	<b>1.9%</b>	<b>22.9%</b>	<b>16.9%</b>		





# Engineering Workforce Historical Size by Agency FY05 – FY16



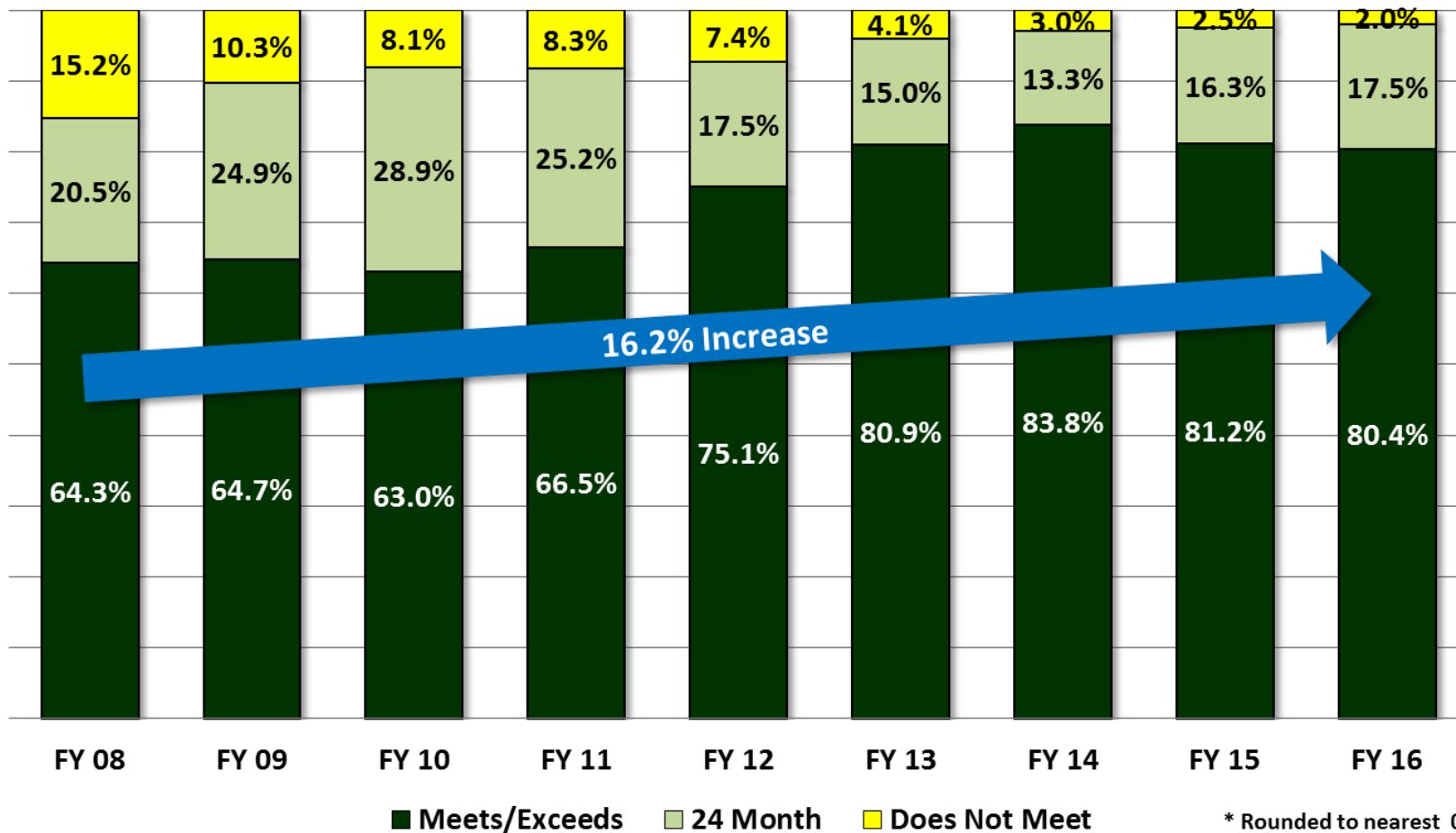
Engineering	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	% Change Since FY08	% Change Since FY15
Defense Acq Workforce														
ARMY	11,138	11,964	11,050	10,769	10,208	10,644	10,108	9,810	9,419	8,981	8,986	9,140	-15%	2%
DoN	16,886	16,688	16,804	16,576	18,085	19,270	19,325	19,498	19,588	19,797	21,181	21,977	33%	4%
AIR FORCE	6,505	6,237	6,162	6,429	7,197	7,625	8,514	8,649	8,521	8,473	8,903	9,139	42%	3%
DCMA	30	59	393	282	660	813	917	974	1,134	1,157	1,181	1,271	351%	8%
DLA	23	14	42	19	16	16	15	11	12	11	11	13	-32%	18%
DCAA	-	-	-	-	-	-	-	-	-	-	-	-		
MDA	111	117	135	281	363	623	615	644	631	605	582	601	114%	3%
DISA	4	16	96	89	74	58	69	69	76	74	70	70	-21%	0%
DHA	-	-	2	2	8	9	9	10	8	6	2	4	100%	100%
DTRA	11	1	1	7	11	27	17	35	45	44	43	47	571%	9%
DAU	26	30	-	33	41	46	48	49	45	40	38	45	36%	18%
NRO	-	-	-	-	-	-	-	-	-	-	-	66		
OSD	18	15	16	31	19	25	24	21	29	23	24	22	-29%	-8%
JCS	-	-	2	-	-	-	-	12	12	10	8	7		-13%
DeCA	-	-	-	-	-	-	-	-	-	-	-	3		
DFAS	-	1	1	-	-	-	-	-	-	-	-	-		
DMEA	-	-	-	-	-	29	26	23	23	20	20	32		60%
DoD HRA	-	-	1	-	-	-	-	-	-	-	-	-		
TRMC	-	-	-	-	-	-	-	1	1	1	1	1		0%
DSCA	-	-	-	1	-	-	-	-	-	-	-	-	-100%	
DTIC	-	-	-	1	-	-	-	-	-	-	-	-	-100%	
DARPA	-	-	1	-	-	-	-	-	-	-	-	-		
IG	-	-	-	1	-	-	-	-	-	-	-	-	-100%	
ASD	-	-	-	-	4	4	3	1	-	-	-	-		
4th Estate Other	-	-	4	16	18	12	-	-	-	-	-	-		
<b>TOTAL</b>	<b>34,752</b>	<b>35,142</b>	<b>34,710</b>	<b>34,537</b>	<b>36,704</b>	<b>39,201</b>	<b>39,690</b>	<b>39,807</b>	<b>39,544</b>	<b>39,242</b>	<b>41,050</b>	<b>42,438</b>	<b>↑ 23%</b>	<b>↑ 3%</b>



# PQM Manager Historical DAWIA Certification FY08 – FY16



## Engineering

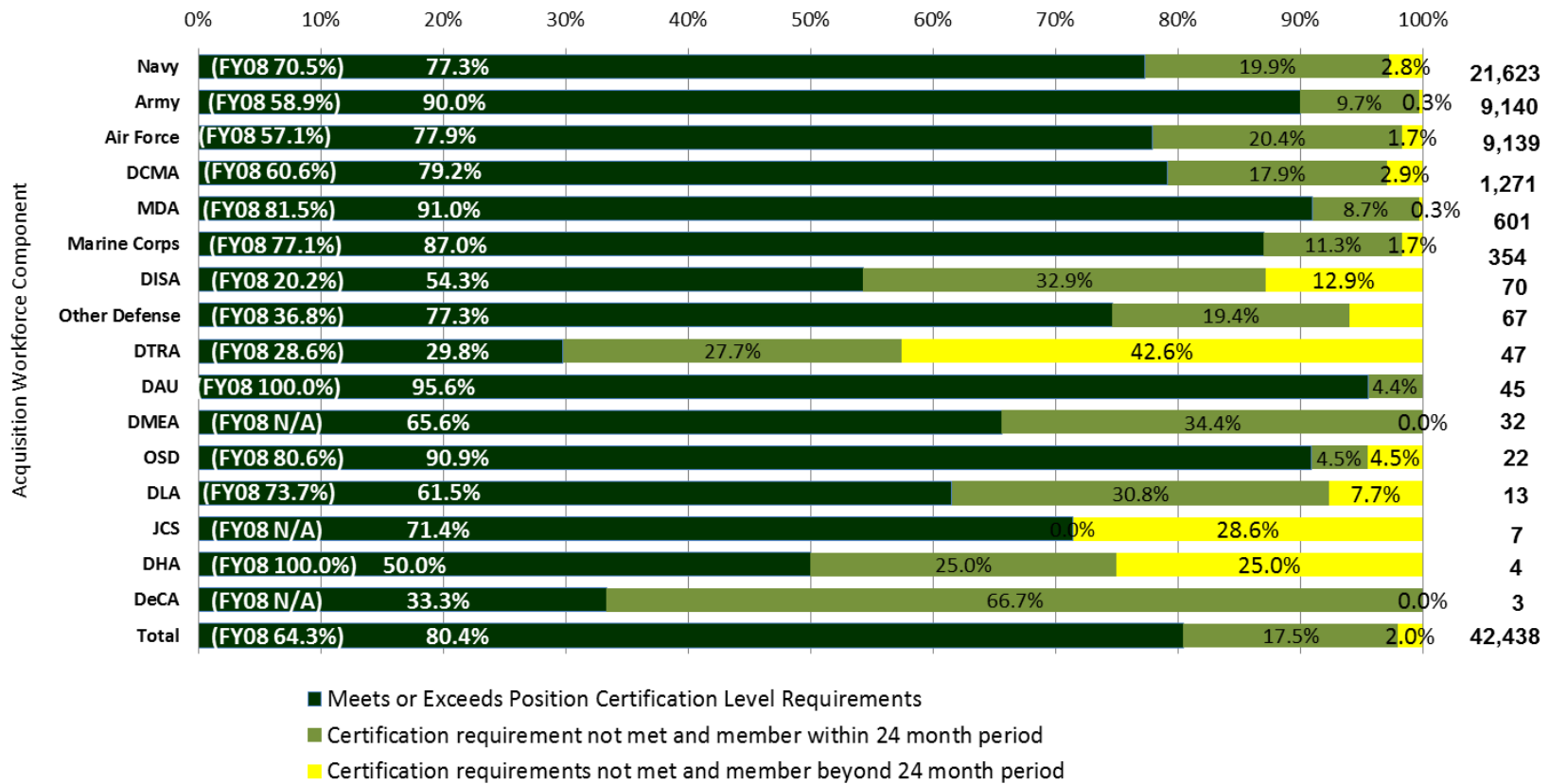




# Engineering DAWIA Certification by Component



## Certification Level "Meet/Exceed" Rates by Component Engineering (FY16Q4)





# Engineering DAWIA Certification Matrix + Bench Strength

Engineering		Achieved Certification Level				FY16Q4 TOTAL	% Meets Certification Requirement
Required Certification Level	No Level Achieved	Level I	Level II	Level III			
Level I	2,714	2,877	686	277	6,554	58.6%	
Level II	1,893	1,921	6,981	5,835	16,630	77.1%	
Level III	665	332	764	17,475	19,236	90.8%	
<i>Unspecified</i>	12	3	2	1	18		
<b>FY16Q4 TOTAL</b>	<b>5,284</b>	<b>5,133</b>	<b>8,433</b>	<b>23,588</b>	<b>42,438</b>	<b>80.4%</b>	
	12.5%	12.1%	19.9%	55.6%			

No Level Achieved includes those within the 24 month grace period

Bench Strength			
Service	# Exceeds	% Exceeds**	Career Field Rank
DAW	20,638	12.8%	
Army	5,124	13.8%	
Navy	6,995	12.3%	
Marine Cor	212	7.1%	
Air Force	6,545	17.7%	
4th Estate	1,762	6.5%	
Engineering	6,798	16.0%	2 of 14

\*\* Based on population total without unspecified positions

Certification Requirement	Meets	Within 24 Months	Does Not Meet	DAW TOTAL	
Level I	3,840	2,678	36	6,554	15.4%
Level II	12,816	3,380	434	16,630	39.2%
Level III	17,475	1,368	393	19,236	45.3%
<i>Unspecified</i>	1	16	1	18	0.0%
<b>Engineering TOTAL</b>	<b>34,132</b>	<b>7,442</b>	<b>864</b>	<b>42,438</b>	
	80.4%	17.5%	2.0%		

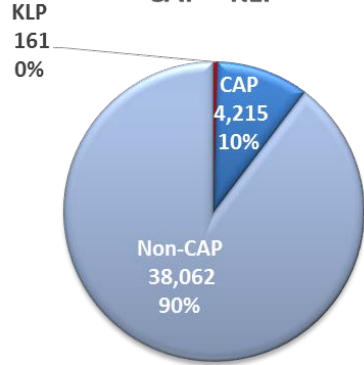
  = Compliance  
  = Exceeds Requirements

\* NOTE: Rounded to nearest 0.1%

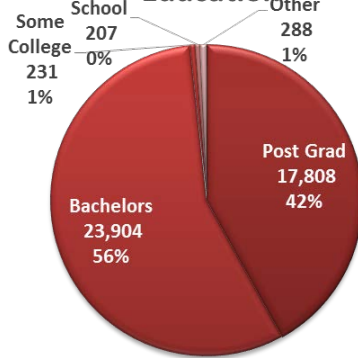


# Demographics

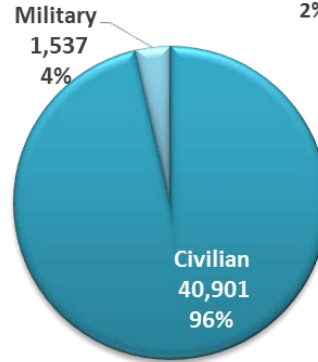
**CAP - KLP**



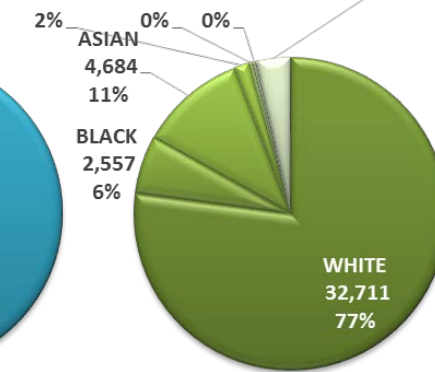
**Education**



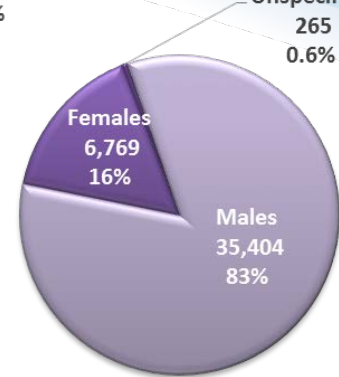
**MIL / CIV**



**RACE**



**Gender**



Occupied Position Type	Engineering TOTAL	Entire DAW
Key Leadership Positions (KLPs)	161 <i>0.4%</i>	1,197 <i>0.7%</i>
Critical Acquisition Positions (CAPs) *	4,215 <i>9.9%</i>	15,791 <i>9.8%</i>
Non-CAP Positions	38,062 <i>89.7%</i>	144,481 <i>89.5%</i>
<b>TOTAL</b>	<b>42,438</b>	<b>161,469</b>

\* = Number of CAPs, excluding KLPs (no double counts)

Highest Level of Education	Engineering TOTAL	Entire DAW
Post Grad	17,808 <i>42.0%</i>	63,772 <i>39.5%</i>
Bachelors	23,904 <i>56.3%</i>	71,199 <i>44.1%</i>
Some College	231 <i>0.5%</i>	12,023 <i>7.4%</i>
High School	207 <i>0.5%</i>	12,767 <i>7.9%</i>
Other	288 <i>0.7%</i>	1,708 <i>1.1%</i>
<b>TOTAL</b>	<b>42,438</b>	<b>161,469</b>

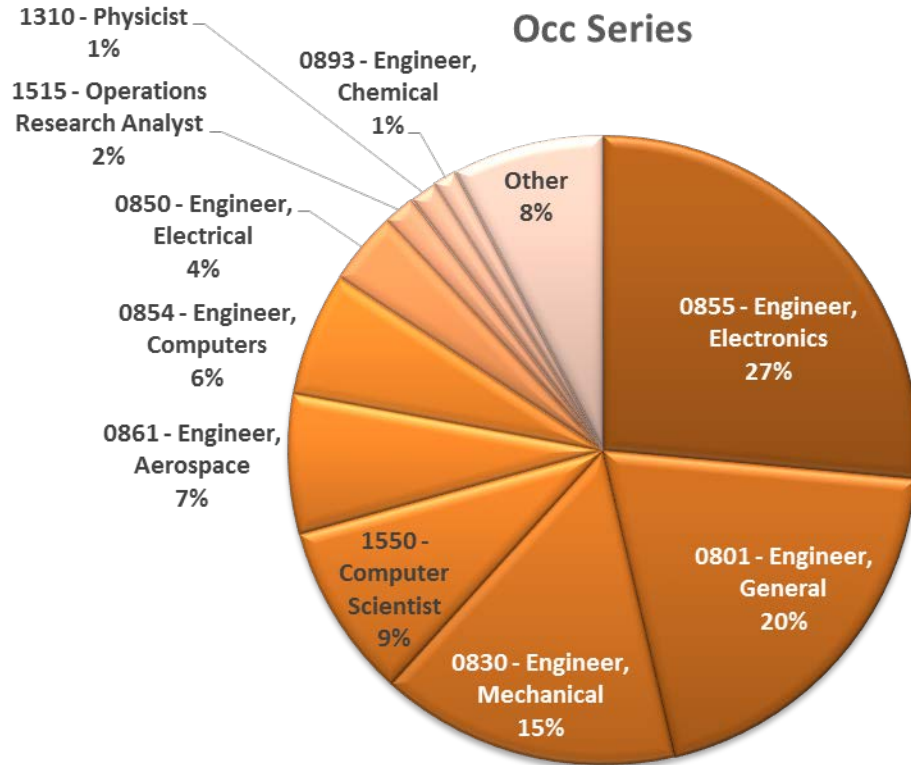
Military / Civilian	Engineering TOTAL	Entire DAW
Civilian	40,901 <i>96.4%</i>	145,988 <i>90.4%</i>
Military	1,537 <i>3.6%</i>	15,481 <i>9.6%</i>
<b>TOTAL</b>	<b>42,438</b>	<b>161,469</b>

Race	Engineering TOTAL	Entire DAW
WHITE	32,711 <i>77.1%</i>	119,897 <i>74.3%</i>
BLACK	2,557 <i>6.0%</i>	19,270 <i>11.9%</i>
ASIAN	4,684 <i>11.0%</i>	10,551 <i>6.5%</i>
MULTI	658 <i>1.6%</i>	3,591 <i>2.2%</i>
AMI/AN PI	191 <i>0.5%</i>	898 <i>0.6%</i>
Unspecified	1,505 <i>3.5%</i>	6,475 <i>4.0%</i>
<b>TOTAL</b>	<b>42,438</b>	<b>161,469</b>

Gender	Engineering TOTAL	Entire DAW
Males	35,404 <i>83.4%</i>	113,498 <i>70.3%</i>
Females	6,769 <i>16.0%</i>	46,704 <i>28.9%</i>
Unspecified	265 <i>0.6%</i>	1,267 <i>0.8%</i>
<b>TOTAL</b>	<b>42,438</b>	<b>161,469</b>



# Engineering Size by Occupational Series



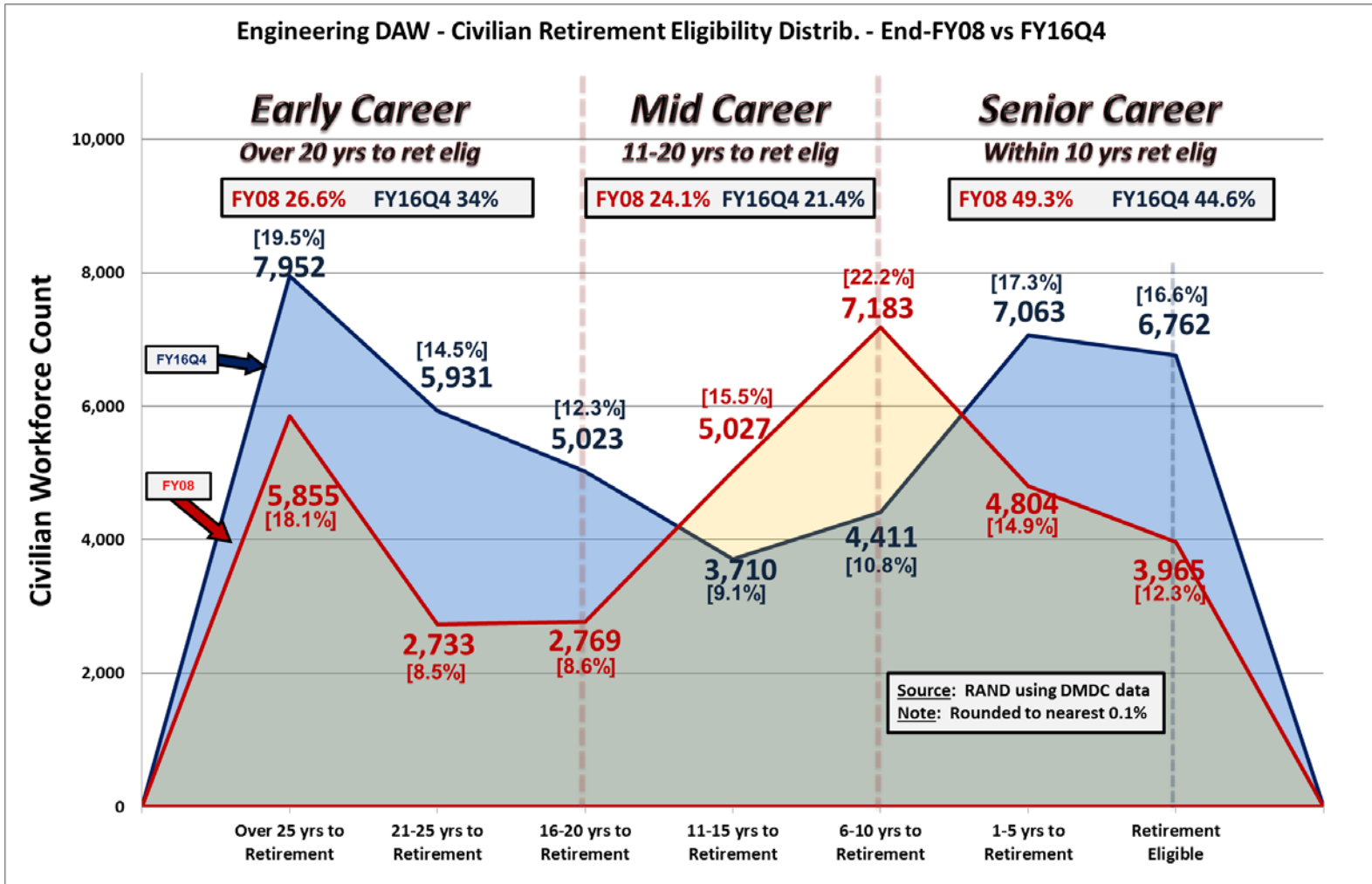
Civilian Occupational Series	Engineering TOTAL	
0855 - Engineer, Electronics	10,822	26.5%
0801 - Engineer, General	8,123	19.9%
0830 - Engineer, Mechanical	6,306	15.4%
1550 - Computer Scientist	3,675	8.99%
0861 - Engineer, Aerospace	2,938	7.18%
0854 - Engineer, Computers	2,595	6.34%
0850 - Engineer, Electrical	1,538	3.76%
1515 - Operations Research Analyst	665	1.63%
1310 - Physicist	574	1.40%
0893 - Engineer, Chemical	502	1.23%
Other	3,163	7.73%
<b>TOTAL CIVILIAN</b>	<b>40,901</b>	<b>Civilians</b>



# **RAND NDRI Forces and Resources Policy Center Data Retirement / Loss Slides**



# Engineering Civilian Retirement Eligibility Distribution – FY08 / FY16Q4



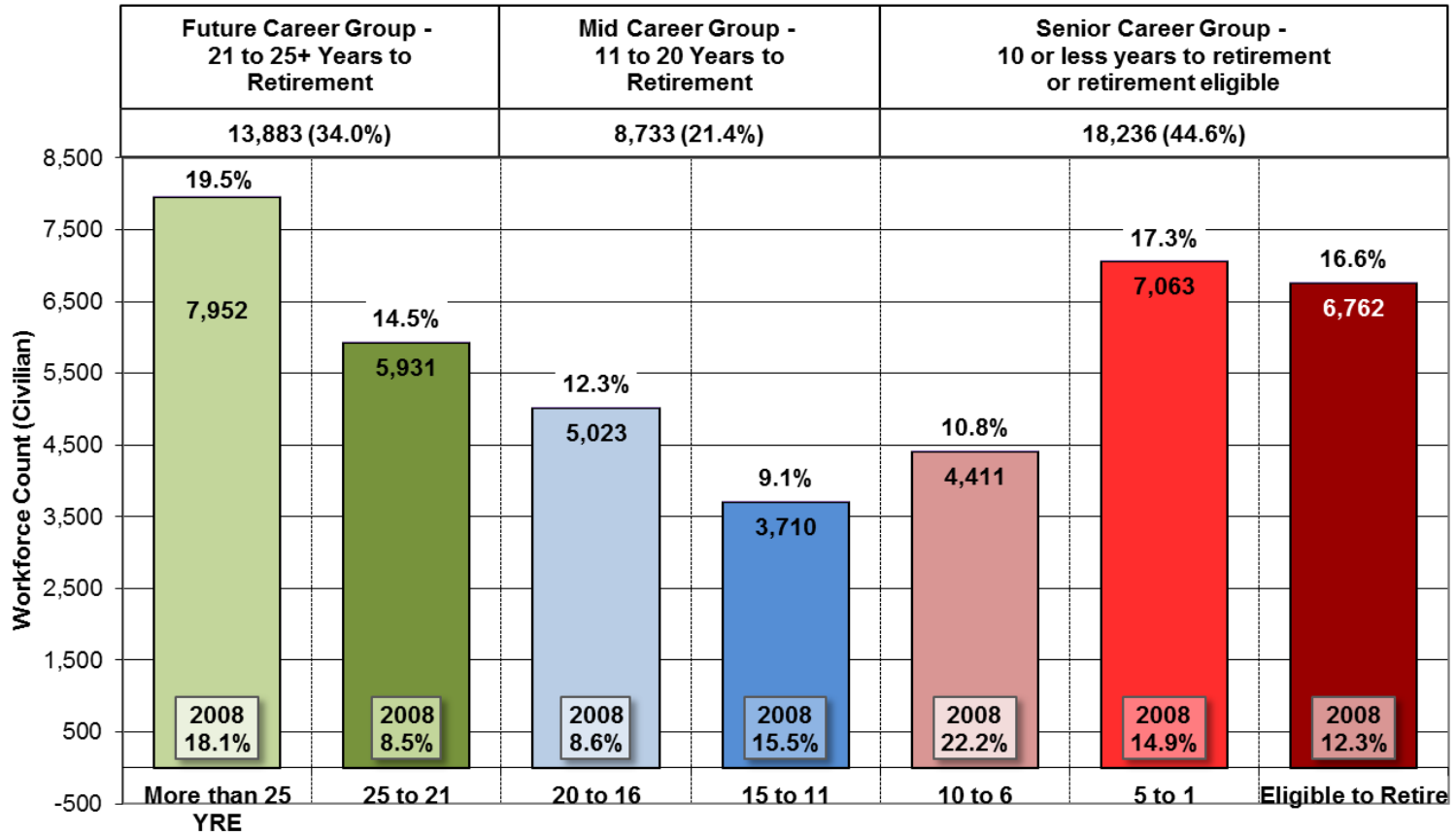
As of 30 Sept 2016





# Engineering Workforce Lifecycle Model by YRE

**Defense Acquisition Workforce Lifecycle Model (WLM)**  
by Years to Retirement Eligibility (YRE) - Civilian (FY2016Q4) - Engineering



Source: Chart was generated by OUSD(AT&L)/Human Capital Initiatives using FY2008 and FY2016 (Q4) DMDC data provided by RAND.

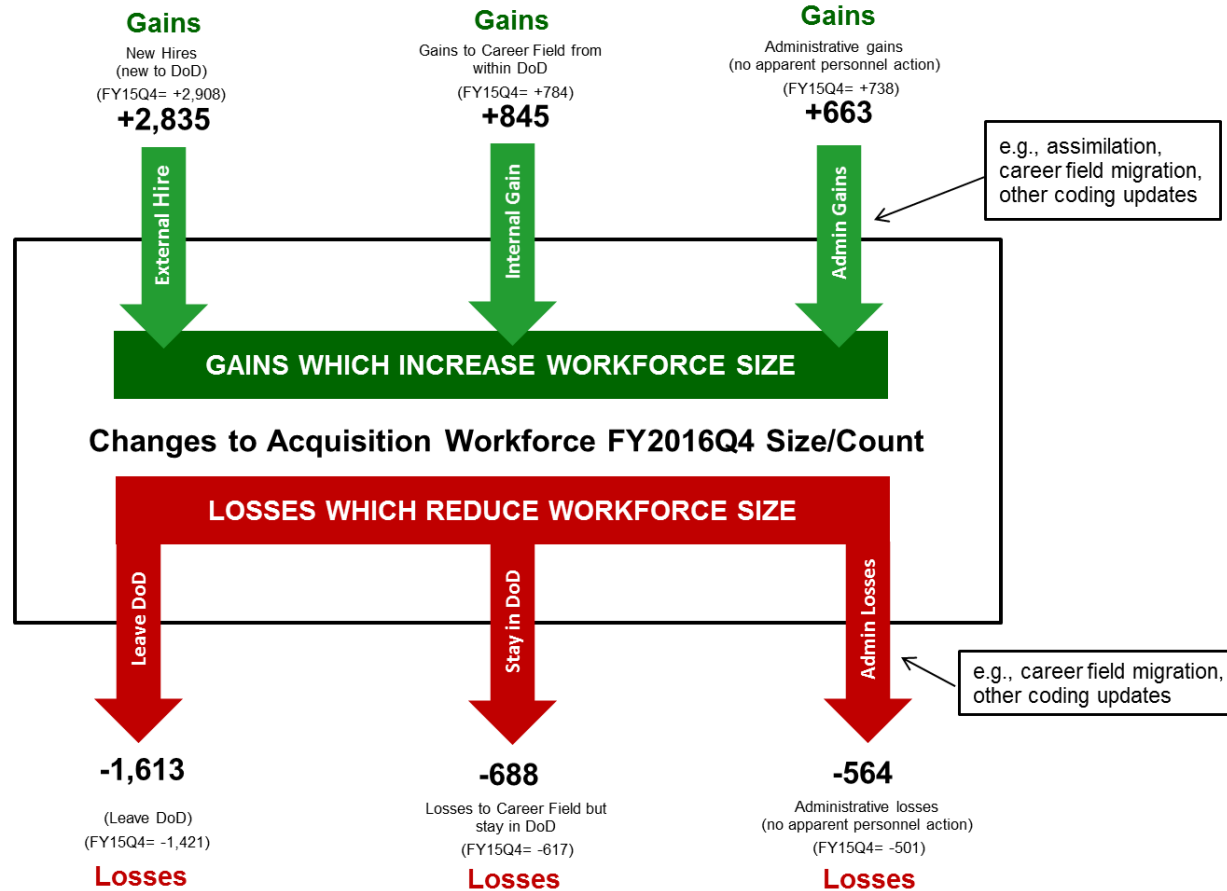


# Engineering Gains/Losses – New Hires Internal/External, Administrative



## Defense Acquisition Workforce (Civilian) (FY2016Q4) - Engineering

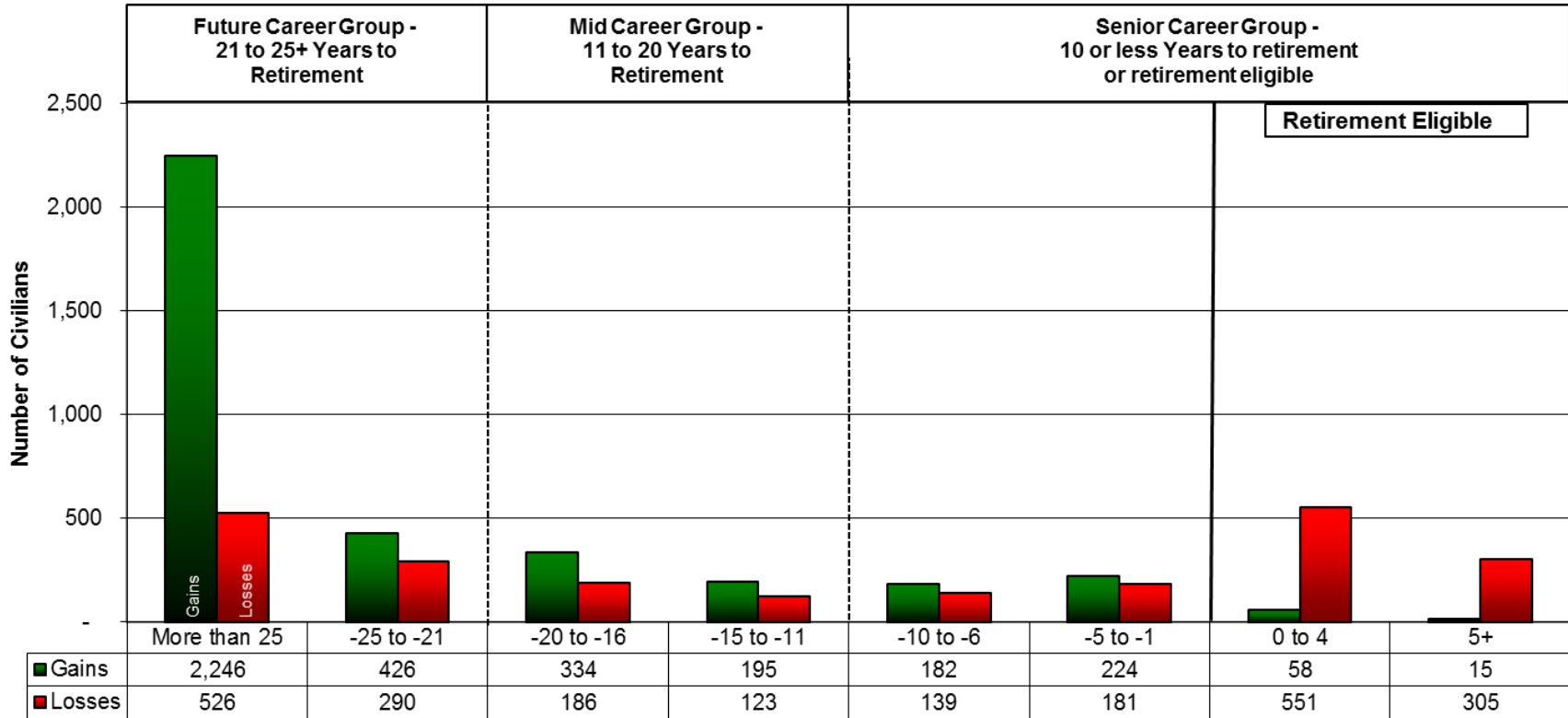
Gains and Losses by External to DoD, Internal to DoD, and Administrative Categories





# Engineering Gains and Losses by YRE Groups

## Defense Acquisition Workforce (Civilian) - Engineering Workforce Lifecycle FY2016Q4 Gains & Losses\*



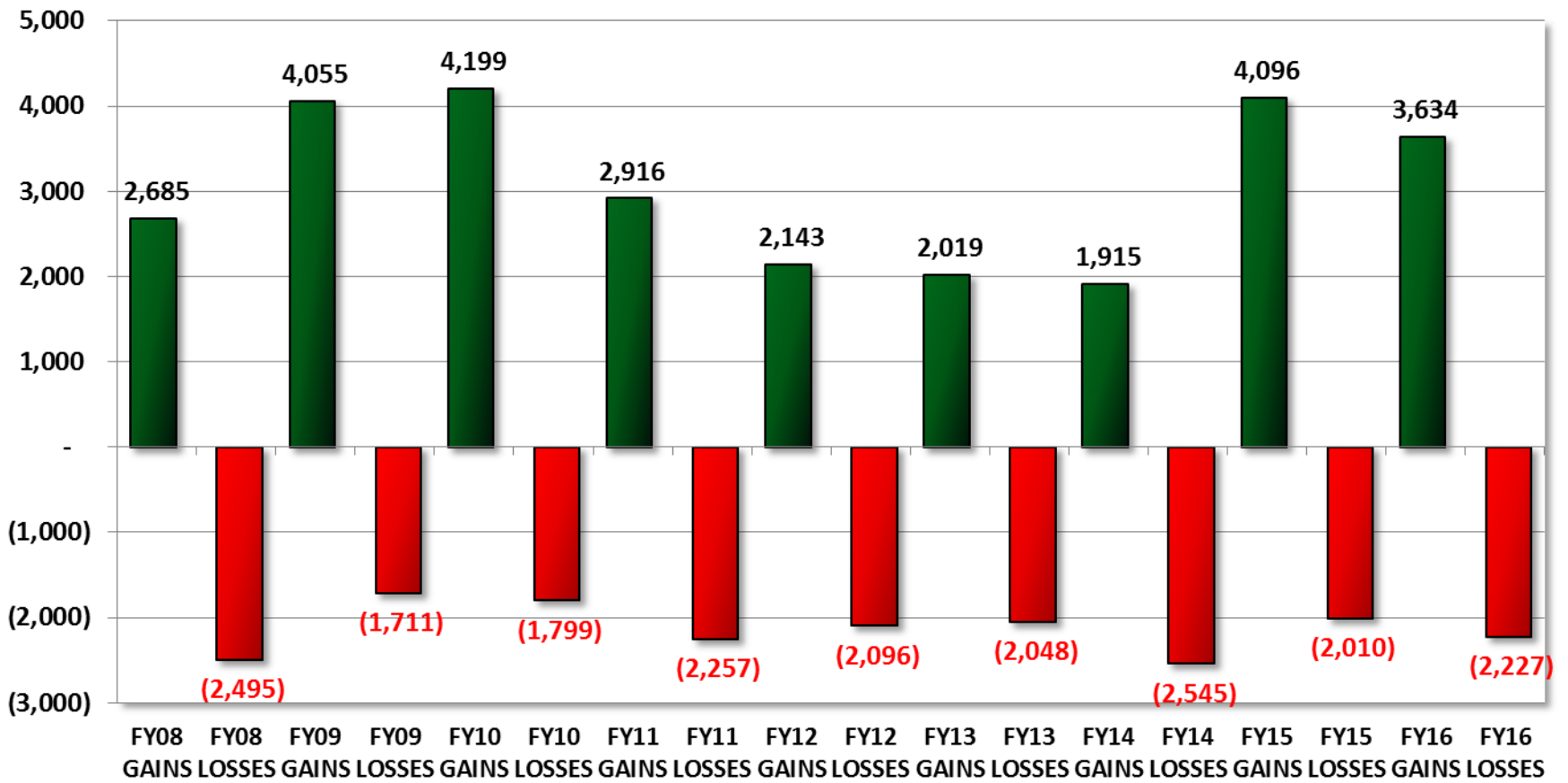
**Career Lifecycle by Years to Retirement Eligibility**

Source: RAND NDRI Forces and Resources Policy Center analysis using DMDC data (FY2016Q4 Data)

\*Does not include administrative gains and losses



# Engineering Historical Gains and Losses FY08 – FY16



As 30 Sept 2016

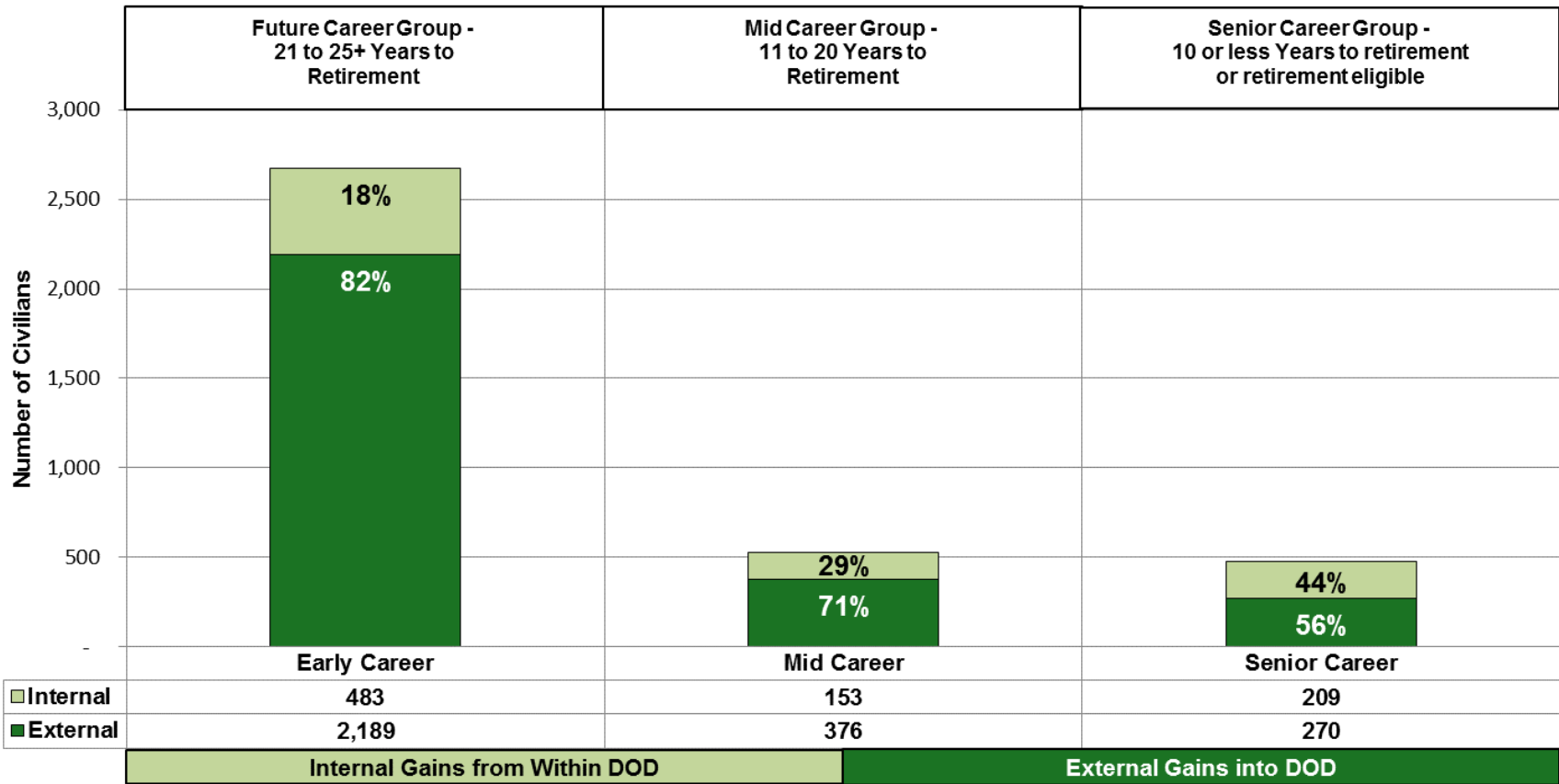


# Engineering Internal/External Gains % by Career Group



## Defense Acquisition Workforce (Civilian) - Engineering

Workforce Lifecycle FY2016Q4 Gains\*



Source: RAND NDRI Forces and Resources Policy Center analysis using DMDC data (FY2016Q4 Data)

\*Does not include administrative gains

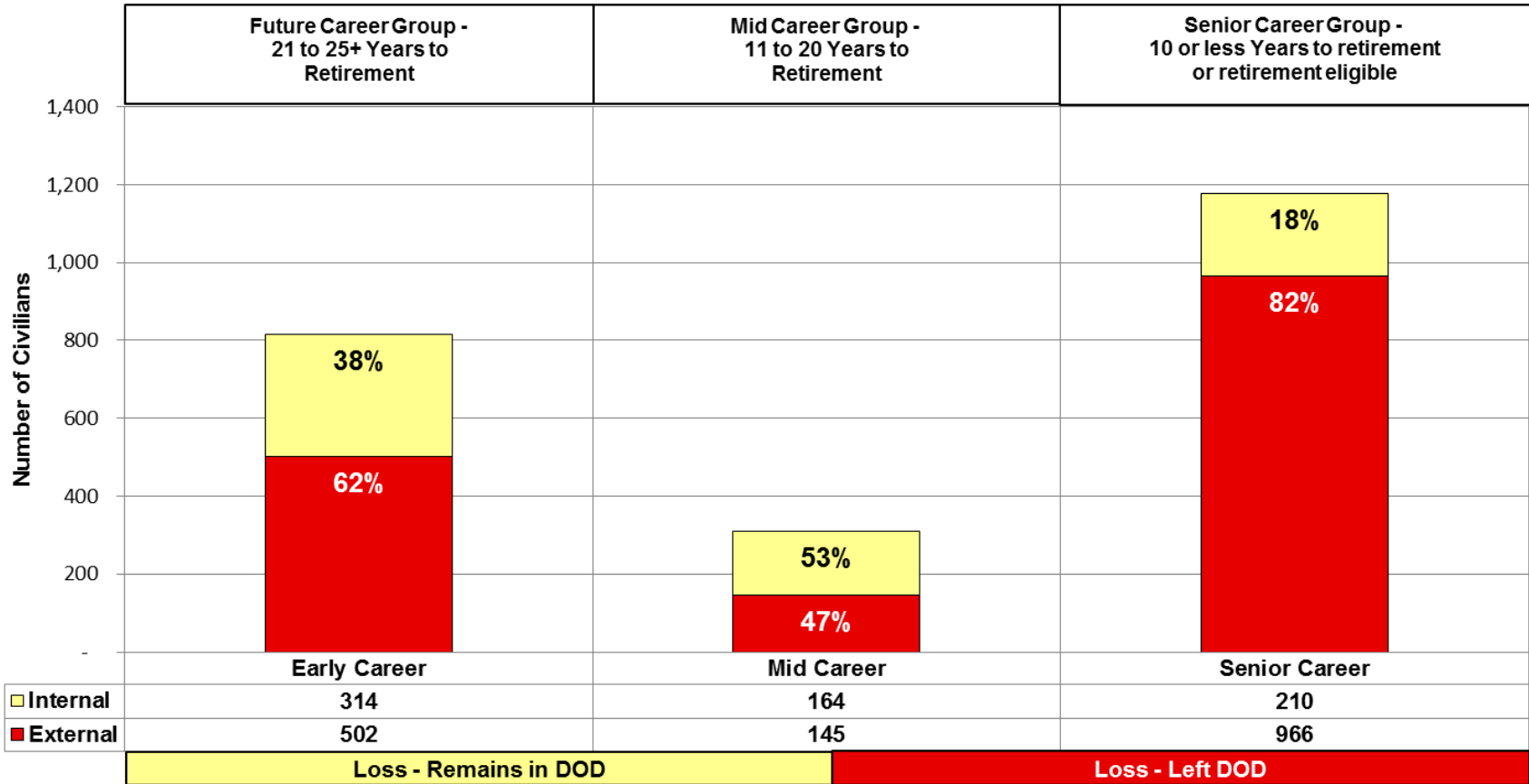


# Engineering Internal/External Loss % by Career Group



## Defense Acquisition Workforce (Civilian) - Engineering

Workforce Lifecycle FY2016Q4 Losses\*



Source: RAND NDRI Forces and Resources Policy Center analysis using DMDC data (FY2016Q4 Data)

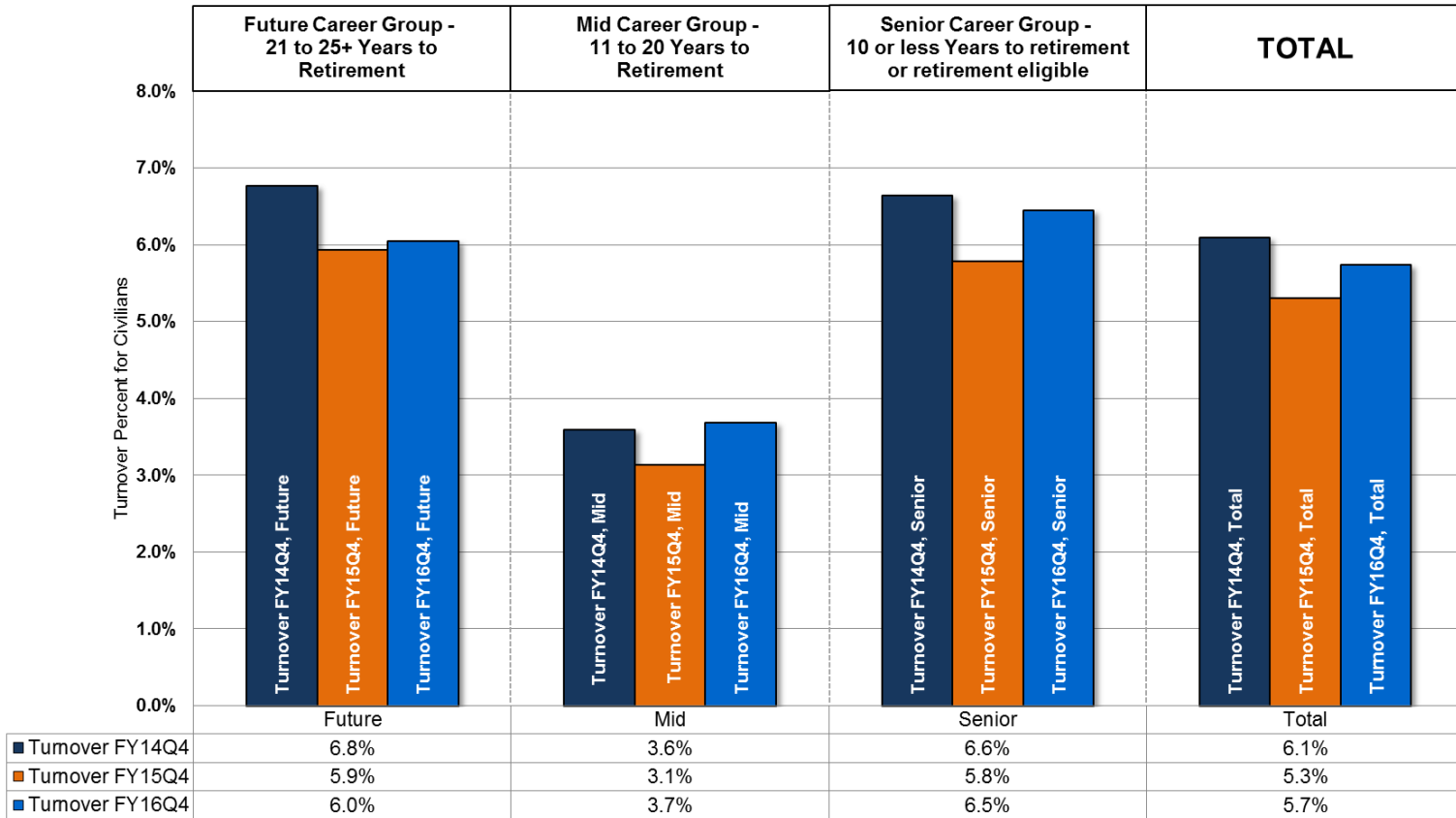
\*Does not include administrative losses

As of 30 Sept 2016



# Engineering Turnover Rates by Career Group

## Defense Acquisition Workforce Turnover - Engineering (Civilian) (FY14Q4, FY15Q4, FY16Q4)(by Career Lifecycle Group)



Turnover Percent by Career Lifecycle Groups

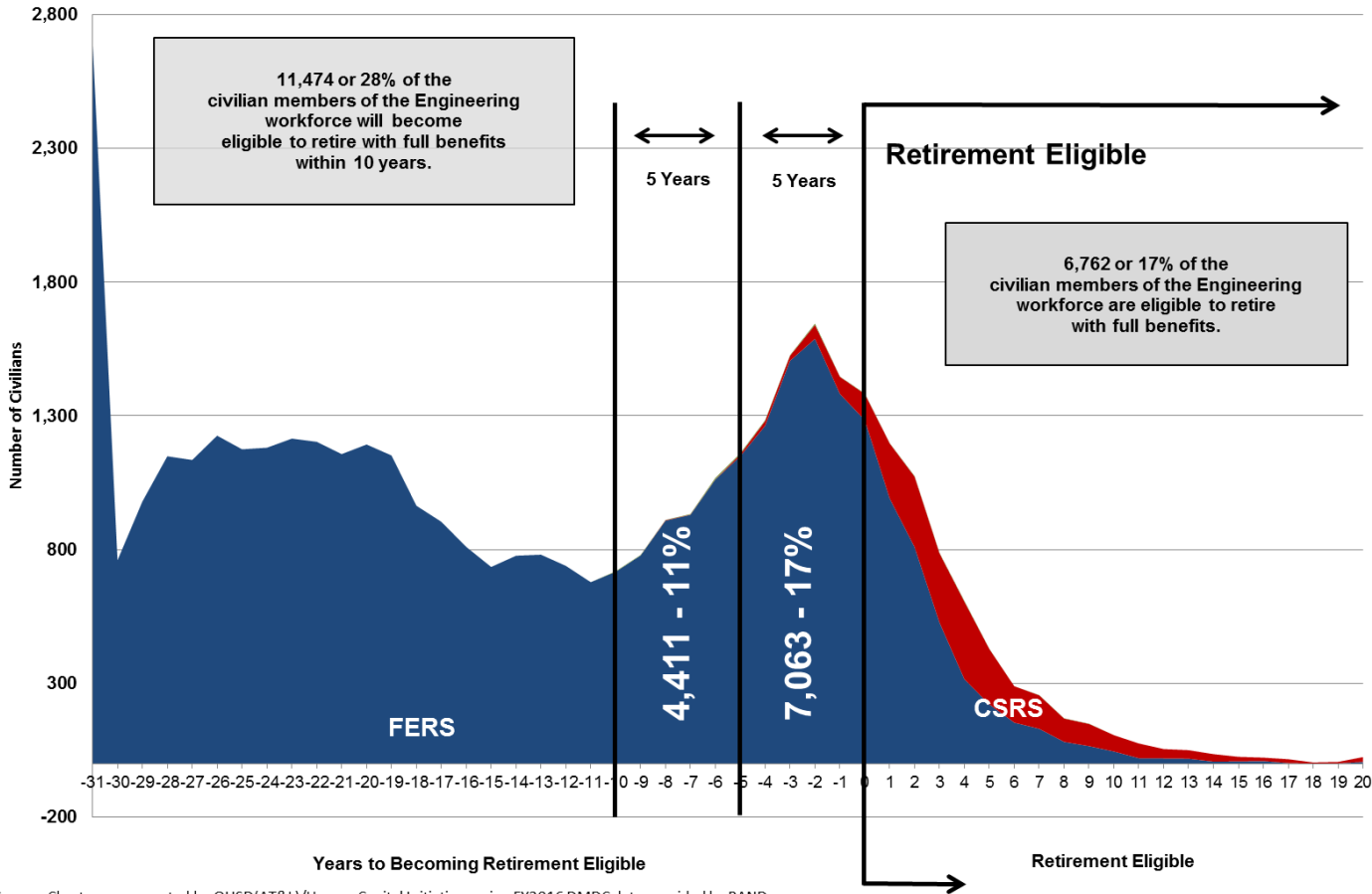


# Engineering Civilian Distribution by Years to Retirement Eligibility



## Defense Acquisition Workforce - Engineering

Distribution by Years to Retirement Eligibility (Civilians)(FY2016Q4)



Source: Chart was generated by OUSD(AT&L)/Human Capital Initiatives using FY2016 DMDC data provided by RAND.

As of 30 Sept 2016





***END***