



Defense Acquisition Workforce Key Information

Engineering

As of FY19Q1 (31 Dec 2018)



Fact Sheet



Human Capital Fact Sheet

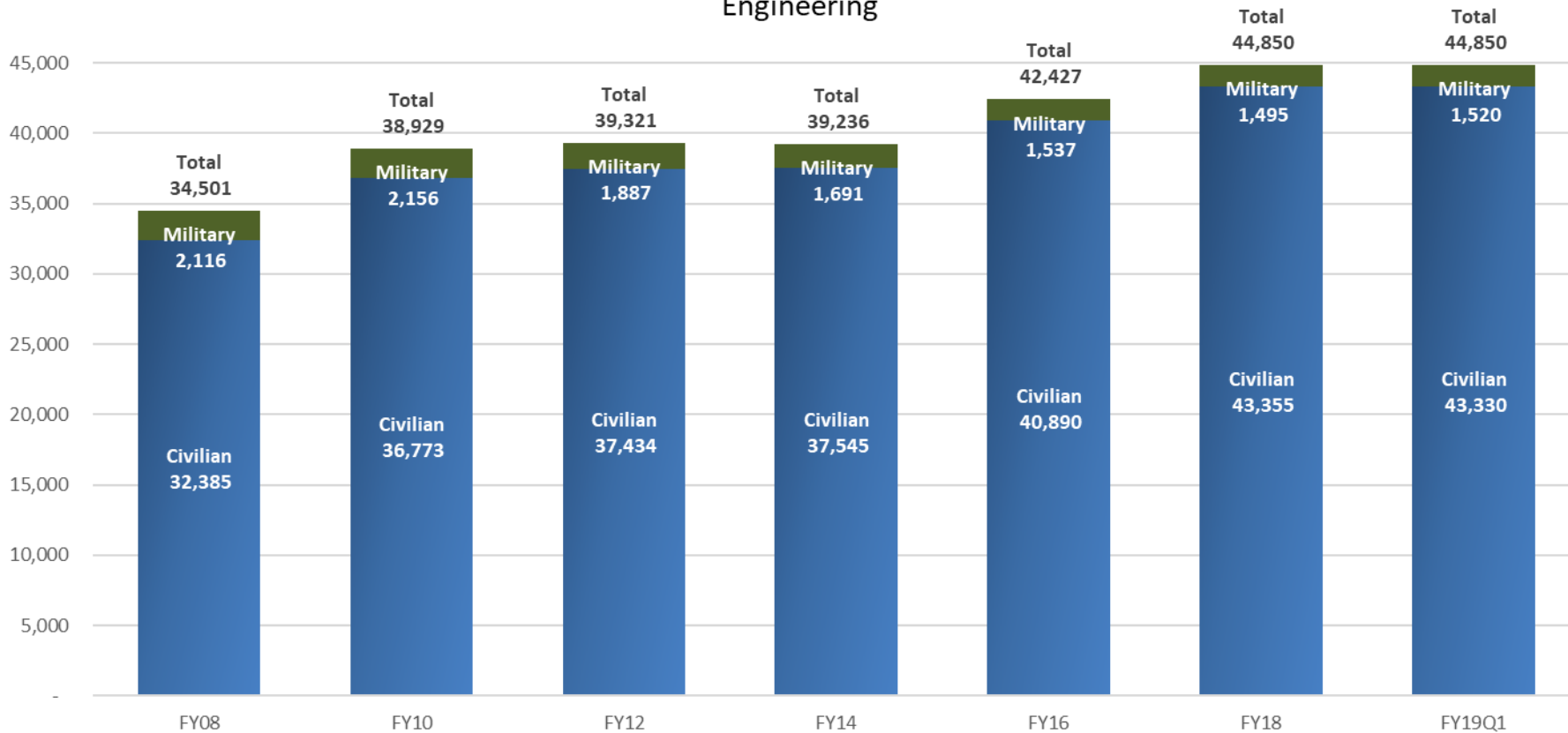
Defense Acquisition Workforce Engineering	FY 2008				FY2018Q4			
	Engineering Civilian (Civ)	Engineering Military (Mil)	Total Engineering (Civ+Mil)	Defense Acquisition Workforce	Engineering Civilian (Civ)	Engineering Military (Mil)	Total Engineering (Civ+Mil)	Defense Acquisition Workforce
Size & Composition								
Workforce Size	32,385	2,116	34,501	125,879	43,355	1,495	44,850	172,736
Change in size from 2008	-	-	-	-	34%	-29%	30%	37%
Civilian/Military Composition	94%	6%	-	88% / 12%	97%	3%	-	91% / 9%
Educational Attainment								
Bachelor's Degree or Higher	98%	95%	98%	77%	98%	98%	98%	84%
Graduate Degree	36%	45%	36%	29%	41%	62%	41%	40%
Certification								
Level I or Higher Achieved	78%	57%	77%	72%	87%	78%	87%	84%
Level II or Higher Achieved	70%	25%	68%	61%	72%	49%	71%	71%
Level III Achieved	58%	8%	55%	36%	51%	21%	50%	40%
Position Certification Requirement Met or Exceeded	67%	31%	64%	58%	81%	58%	80%	74%
Within 24 Months of Certification Requirement	18%	52%	20%	27%	18%	37%	18%	23%
Does Not Meet Certification Requirement	15%	17%	15%	14%	1%	4%	1%	3%
Planning Considerations								
Average Age	45	33	44	46	43	32	42	45
Workforce Life-Cycle Model (YRE)* % Future/Mid-Career/Senior	27/24/49(%)	-	-	20/23/57 (%)(Civ)	36/23/41(%)	-	-	26/26/48(%)
Average Years of Service	17	9	16	17	15	9	15	15
Retirement Eligible*	3,965(12%)	-	-	19,051(17%) (Civ)	7,746(18%)	-	-	28,432(18%)
Retirement Eligible w/in 5 Years*	4,804(15%)	-	-	21,315(19%) (Civ)	5,981(14%)	-	-	25,048(16%)
Total Gains/Losses*	4,050/4,197	-	-	14,245/15,030 (Civ)	5,060/3,369	-	-	19,614/12,308

Source: Data generated by OUSD(A&S)/Human Capital Initiatives using the A&S Workforce Data Mart & analysis support from RAND.



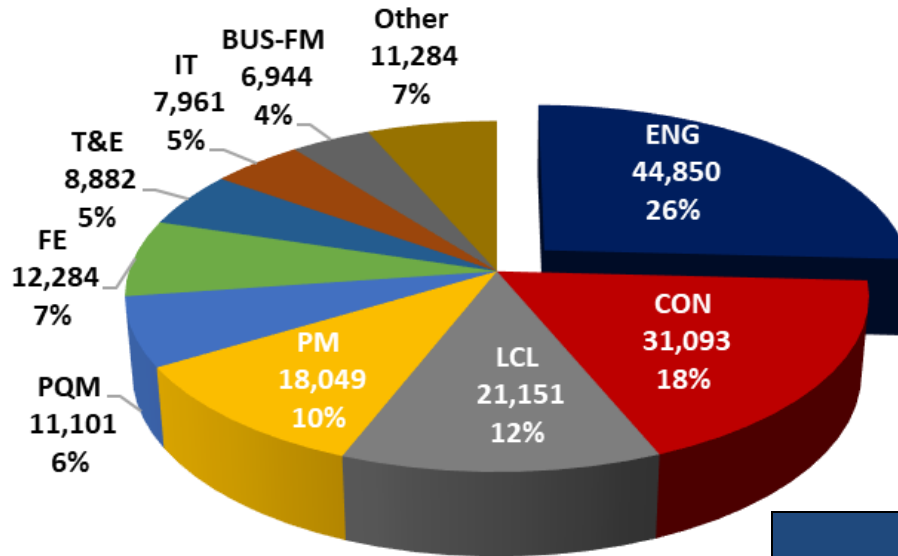
Engineering Total Workforce

Engineering





AWF by Component and Career Field



FY 2019 Q1	Army	Navy	Marine Corps	Air Force	4th Estate	Totals	% Total
Auditing	-	-	-	-	4,183	4,183	2.4%
Business - CE	250	561	34	530	89	1,464	0.8%
Business - FM	1,792	2,155	173	2,232	592	6,944	4.0%
Contracting	8,050	6,239	537	8,225	8,042	31,093	17.9%
Engineering	9,148	23,650	328	9,604	2,120	44,850	25.8%
Facilities Engineering	5,660	5,832	35	663	94	12,284	7.1%
Information Technology	1,827	3,421	228	1,412	1,073	7,961	4.6%
Life Cycle Logistics	6,946	6,408	673	3,715	3,409	21,151	12.2%
Production, Quality and Man	1,378	3,796	43	478	5,406	11,101	6.4%
Program Management	3,351	5,708	756	6,342	1,892	18,049	10.4%
Property	49	73	-	14	256	392	0.2%
Purchasing	290	368	40	47	476	1,221	0.7%
S&T Manager	505	517	3	2,849	134	4,008	2.3%
Test and Evaluation	1,929	3,263	134	3,205	351	8,882	5.1%
Unknown/Other	8	2	-	-	6	16	0.01%
Totals	41,183	61,993	2,984	39,316	28,123	173,599	
Component %	23.7%	35.7%	1.7%	22.6%	16.2%		



Engineering Workforce Historical Size by Agency FY08 – FY19



Engineering Defense Acq Workforce Agency	FY08	FY10	FY12	FY14	FY16	FY18	FY19Q1	% Change Since FY08	% Change Since FY18
Navy	16,353	18,932	19,121	19,423	21,623	23,678	23,650	45%	0%
MARINE CORPS	223	338	377	374	354	336	328	47%	-2%
AIR FORCE	6,429	7,625	8,649	8,473	9,139	9,535	9,604	49%	1%
ARMY	10,769	10,644	9,810	8,981	9,140	9,160	9,148	-15%	0%
DCMA	282	813	974	1,157	1,271	1,238	1,223	334%	-1%
MDA	281	623	644	605	601	604	602	114%	0%
DISA	89	58	69	74	70	89	88	-1%	-1%
NRO	-	-	-	-	66	64	64		0%
DAU	33	46	49	40	45	48	48	45%	0%
DTRA	7	27	35	44	47	21	18	157%	-14%
DMEA	-	29	23	20	32	27	27		0%
OSD	31	25	21	23	22	16	16	-48%	0%
DLA	19	16	11	11	13	12	12	-37%	0%
DHA	2	9	10	6	4	9	10	400%	11%
JCS	-	-	12	10	7	8	8		0%
DeCA	-	-	-	-	3	4	3		-25%
TRMC	-	-	1	1	1	1	1		0%
DTIC	1	-	-	-	-	-	-	-100%	
DSCA	1	-	-	-	-	-	-	-100%	
IG	1	-	-	-	-	-	-	-100%	
ASD	-	4	1	-	-	-	-		
4th Estate Other	16	12	-	-	-	-	-	-100%	
TOTAL	34,537	39,201	39,807	39,242	42,438	44,850	44,850	↑ 30%	→ 0%



Engineering Workforce Historical Size (Quarterly) by Agency FY17Q1 – FY19Q1



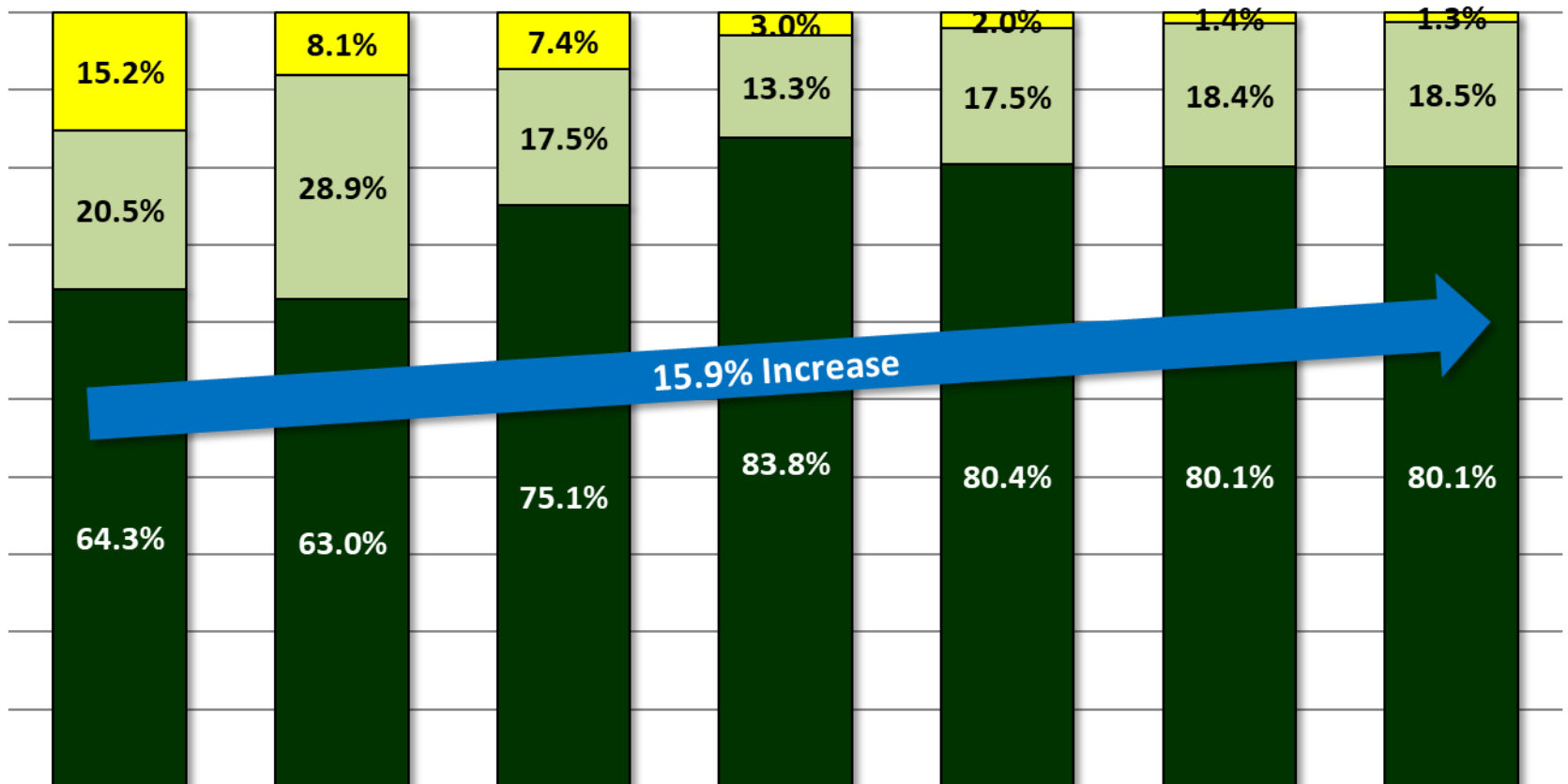
Engineering Defense Acq Workforce Agency	FY17Q1	FY17Q2	FY17Q3	FY17Q4	FY18Q1	FY18Q2	FY18Q3	FY18Q4	FY19Q1	% Change Since FY18Q1
Navy	21,652	21,668	21,777	22,297	22,276	22,376	22,726	23,678	23,650	6%
MARINE CORPS	355	353	357	341	339	336	342	336	328	-3%
AIR FORCE	9,126	9,221	9,211	9,276	9,178	9,271	9,385	9,535	9,604	5%
ARMY	9,145	9,122	9,008	9,096	9,084	9,060	9,024	9,160	9,148	1%
DCMA	1,275	1,262	1,239	1,229	1,226	1,231	1,220	1,238	1,223	0%
MDA	600	597	605	603	597	594	594	604	602	1%
DISA	73	73	72	66	68	66	68	89	88	29%
NRO	68	72	75	78	78	72	56	64	64	-18%
DAU	44	44	46	43	46	47	48	48	48	4%
DTRA	43	42	39	35	31	30	30	21	18	-42%
DMEA	31	31	31	31	32	31	29	27	27	-16%
OSD	22	22	23	22	22	22	21	16	16	-27%
DLA	13	12	13	14	14	14	15	12	12	-14%
DHA	4	4	6	8	8	9	9	9	10	25%
JCS	7	7	7	6	6	8	7	8	8	33%
DeCA	3	2	1	3	4	4	5	4	3	-25%
TRMC	1	1	1	1	1	1	1	1	1	0%
TOTAL	42,462	42,533	42,511	43,149	43,010	43,172	43,580	44,850	44,850	↑ 4%



Engineering Manager Historical DAWIA Certification FY08 – FY19



Engineering



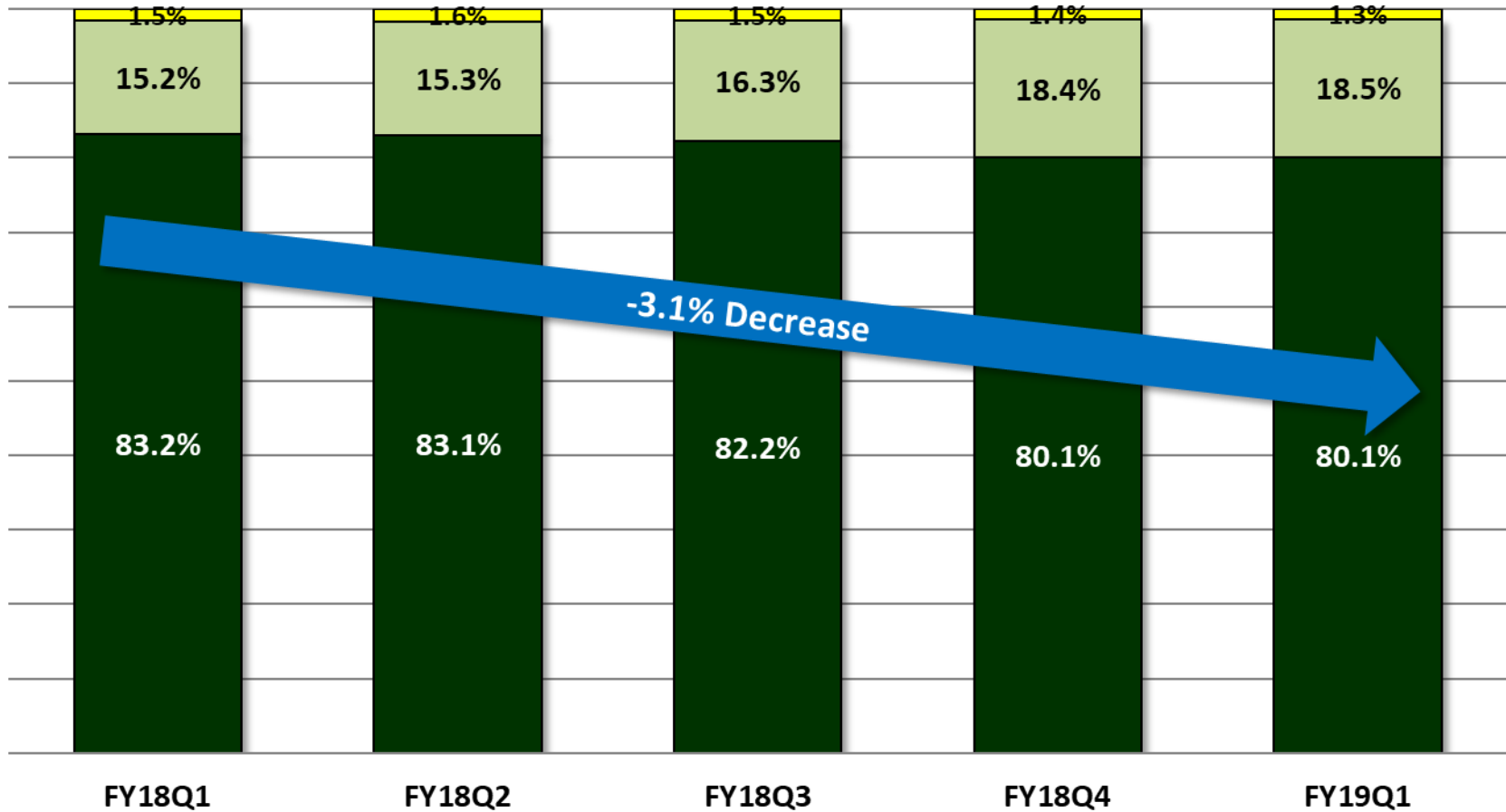
15.9% Increase

■ Meets/Exceeds ■ Within 24 Months ■ Does Not Meet * Rounded to nearest 0.1%



Engineering Manager Historical (Quarterly) DAWIA Certification FY18Q1 – FY19Q1

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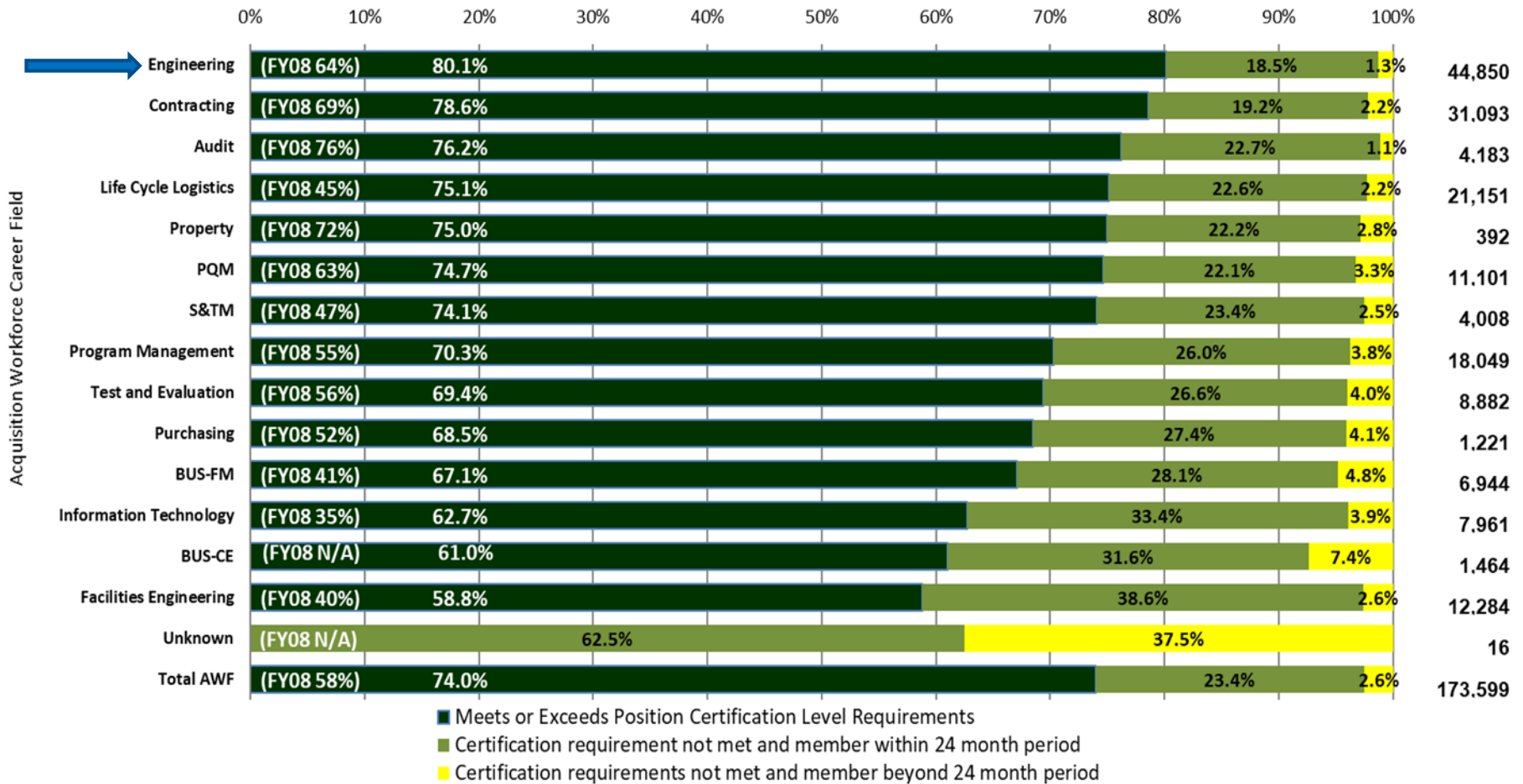
■ Meets/Exceeds ■ Within 24 Months ■ Does Not Meet * Rounded to nearest 0.1%



DAWIA Certification by Career Field



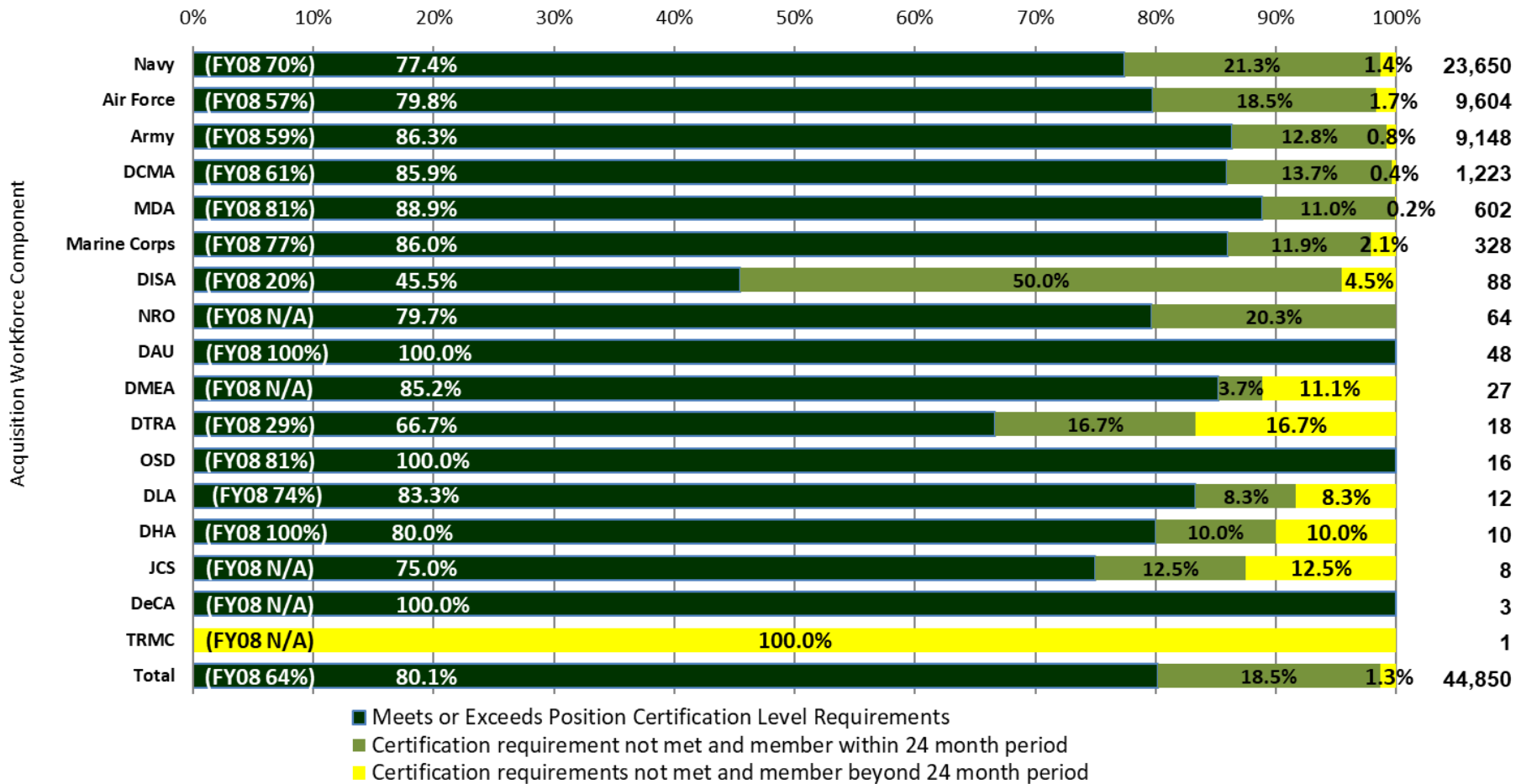
Certification Level "Meet/Exceed" Rates by Career Field AWF (FY19Q1)





Engineering DAWIA Certification by Component

Certification Level "Meet/Exceed" Rates by Component Engineering (FY19Q1)





Engineering DAWIA Certification Matrix + Bench Strength

Engineering Required Certification Level	Achieved Certification Level				FY19Q1 TOTAL	% Meets Certification Requirement
	No Level Achieved	Level I	Level II	Level III		
Level I	3,765	4,803	1,626	1,664	11,858	68.2%
Level II	1,711	1,884	7,137	7,009	17,741	79.7%
Level III	545	300	696	13,702	15,243	89.9%
Unspecified	3	2	1	2	8	
FY19Q1 TOTAL	6,024	6,989	9,460	22,377	44,850	80.1%
	13.4%	15.6%	21.1%	49.9%		

No Level Achieved includes those within the 24 month grace period

Bench Strength			
Org	# Meet or Exceeds	% Meets or Exceeds*	Career Field Rank
DAW	128,462	74.0%	
Army	31,784	77.2%	
Navy	45,107	72.8%	
Marine Cor	2,022	67.8%	
Air Force	27,509	70.0%	
4th Estate	22,040	78.4%	
Engineering	35,941	80.1%	1 of 14

** Based on population total without unspecified positions

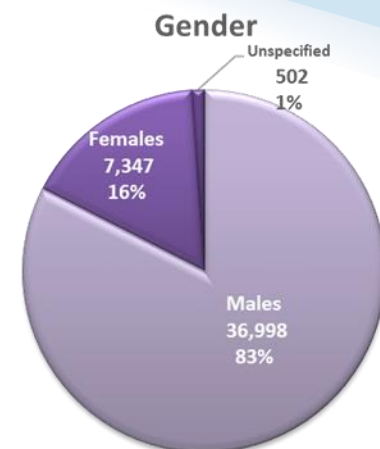
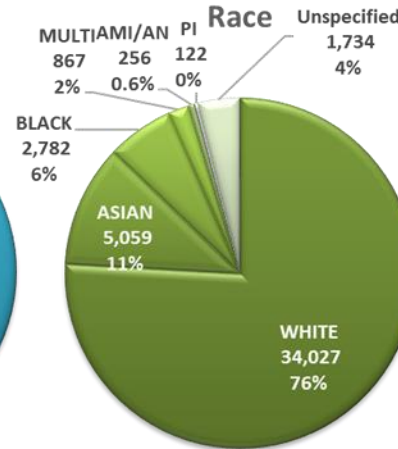
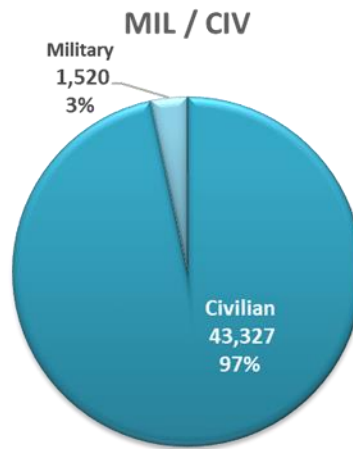
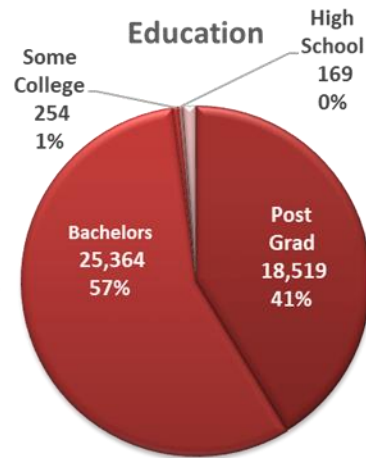
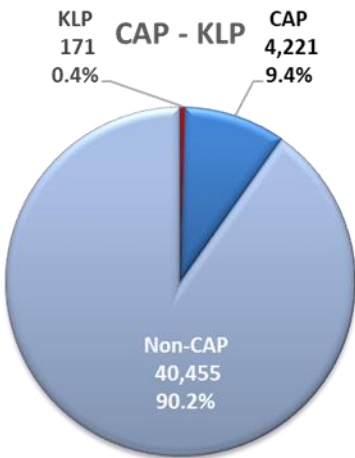
Certification Requirement	Meets	Within 24 Months	Does Not Meet	DAW TOTAL	
Level I	8,093	3,729	36	11,858	26.4%
Level II	14,146	3,216	379	17,741	39.6%
Level III	13,702	1,363	178	15,243	34.0%
Unspecified	2	6	-	8	0.0%
Engineering TOTAL	35,943	8,314	593	44,850	
	80.1%	18.5%	1.3%		

 = Compliance
 = Exceeds Requirements

* NOTE: Rounded to nearest 0.1%



Demographics



Occupied Position Type	Engineering	Entire DAW
Key Leadership Positions (KLPs)	171 0.4%	1,263 0.7%
Critical Acquisition Positions (CAPs) *	4,221 9.4%	16,612 9.6%
Non-CAP Positions	40,455 90.2%	155,724 89.7%
Unknown	- 0.0%	- 0.0%
TOTAL	44,847	173,599

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

Highest Level of Education	Engineering	Entire DAW
Post Grad	18,519 41.3%	69,463 40.0%
Bachelors	25,364 56.6%	76,804 44.2%
Some College	254 0.6%	12,063 6.9%
High School	169 0.4%	12,639 7.3%
Other	541 1.2%	2,630 1.5%
TOTAL	44,847	173,599

Military / Civilian	Engineering	Entire DAW
Civilian	43,327 96.6%	158,067 91.1%
Military	1,520 3.4%	15,532 8.9%
TOTAL	44,847	173,599

Race	Engineering	Entire DAW
WHITE	34,027 75.9%	126,779 73.0%
ASIAN	5,059 11.3%	20,843 12.0%
BLACK	2,782 6.2%	11,892 6.9%
MULTIAMI/AN	867 1.9%	4,832 2.8%
PI	122 0.3%	879 0.5%
Unspecified	1,734 3.9%	7,264 4.2%
TOTAL	44,847	173,599

Gender	Engineering	Entire DAW
Males	36,998 82.5%	121,434 70.0%
Females	7,347 16.4%	50,076 28.8%
Unspecified	502 1.1%	2,089 1.2%
TOTAL	44,847	173,599



Engineering Size by Occupational Series

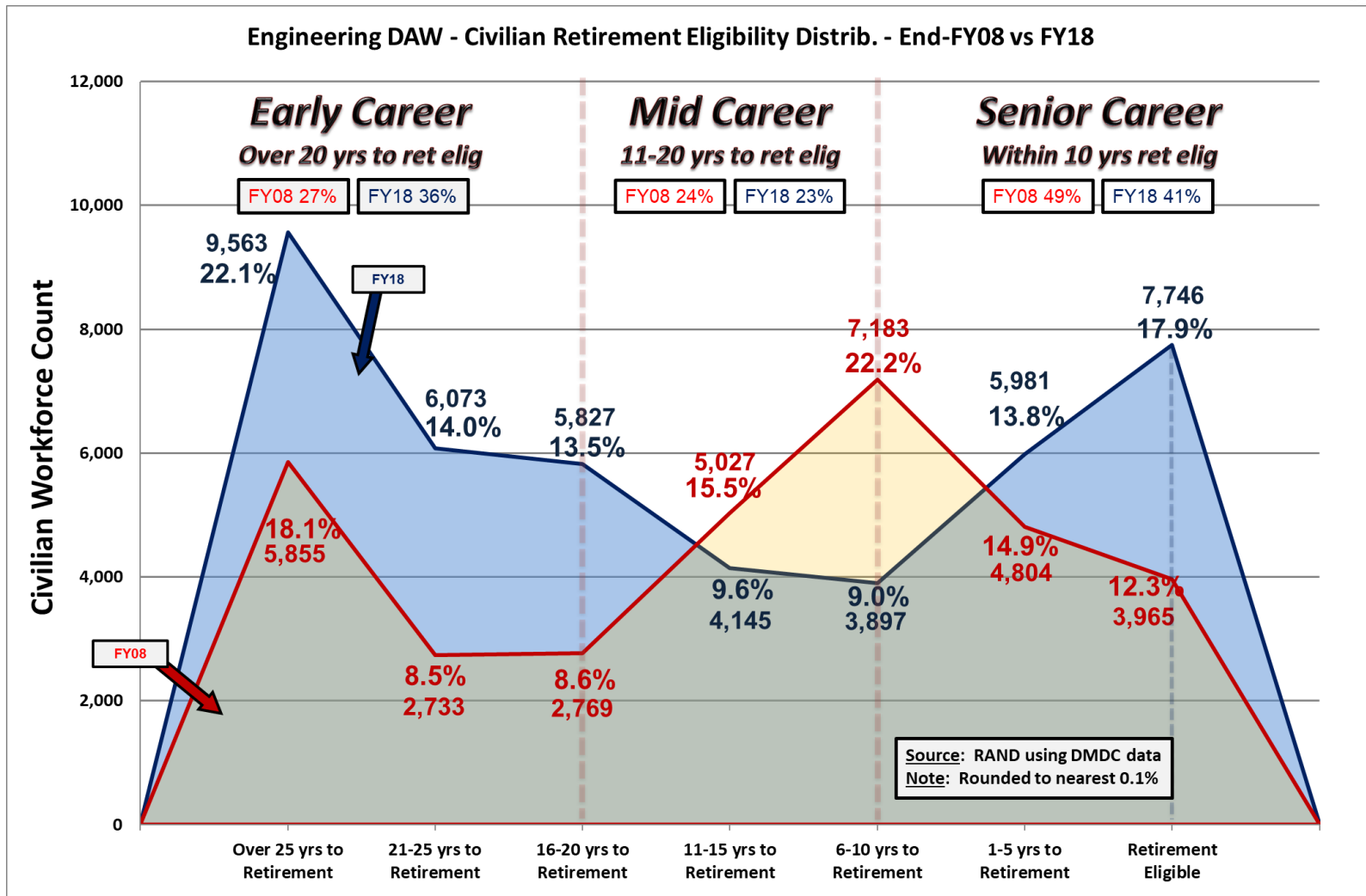
Civilian Occupational Series	Engineering		
0855 - Engineer, Electronics	10,552	24.4%	
0801 - Engineer, General	8,790	20.3%	
0830 - Engineer, Mechanical	6,892	15.9%	
0861 - Engineer, Aerospace	3,100	7.15%	
0854 - Engineer, Computers	2,693	6.22%	
0850 - Engineer, Electrical	1,760	4.06%	
1550 - Computer Scientist	4,379	10.11%	
1515 - Operations Research Analyst	683	1.58%	
1310 - Physicist	637	1.47%	
0893 - Engineer, Chemical	509	1.17%	
	<i>Other</i>	3,332	7.69%
TOTAL CIVILIAN	43,327	Civilians	



RAND NDRI Forces and Resources Policy Center Data Retirement / Loss Slides FY18



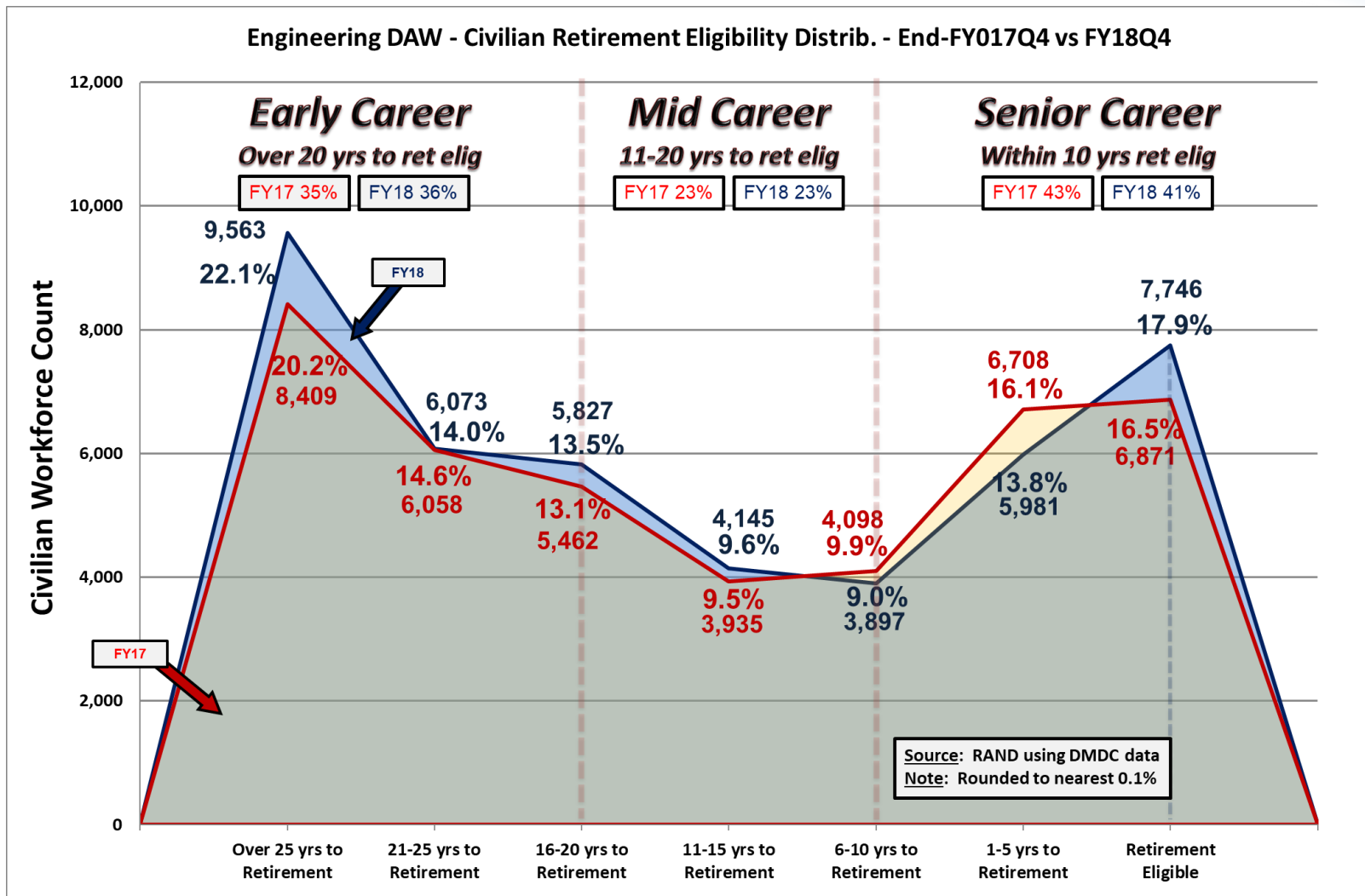
Engineering Civilian Retirement Eligibility Distribution – FY08 / FY18



As of 30 Sept 2018



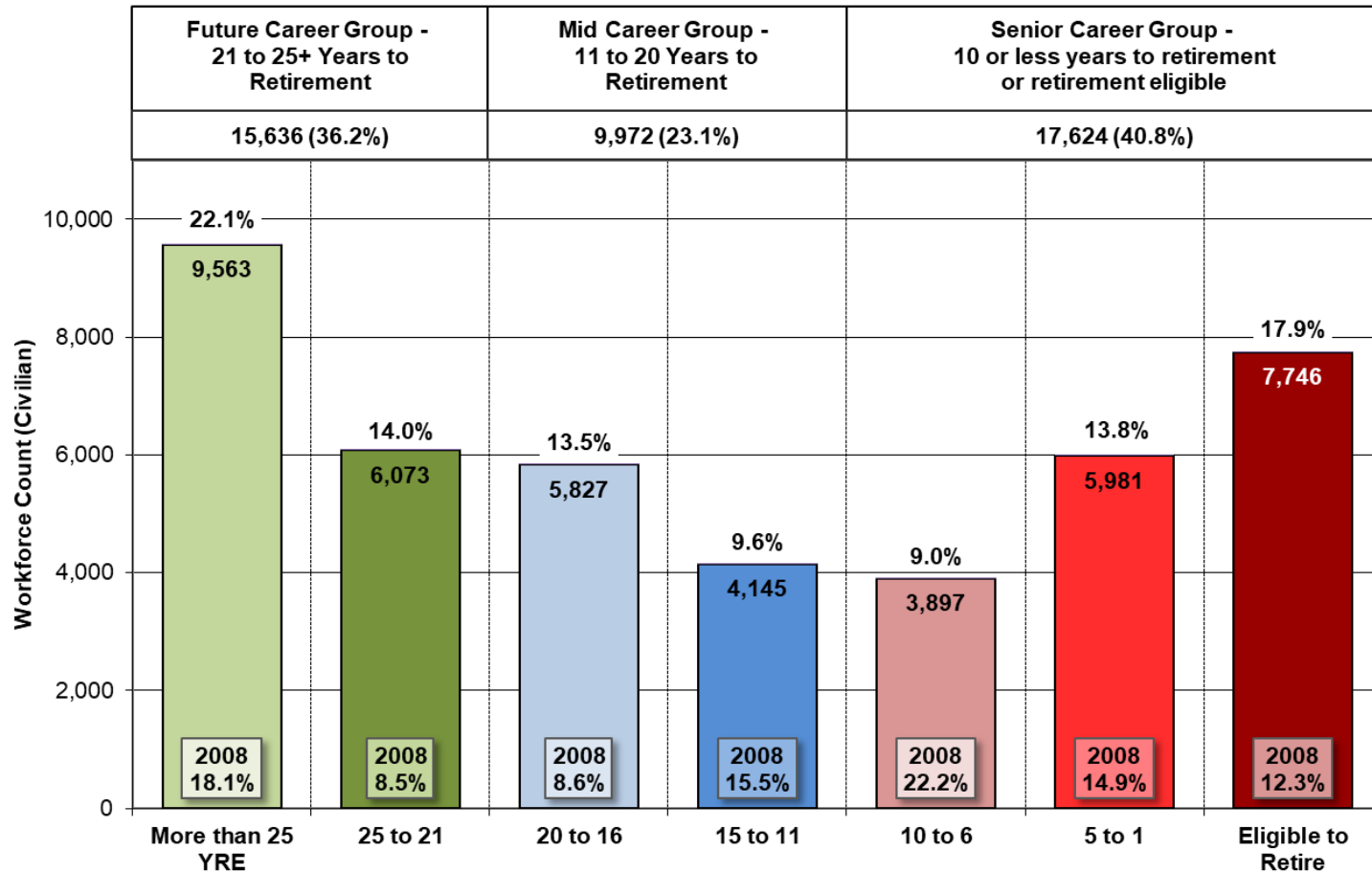
Engineering Civilian Retirement Eligibility Distribution – (1 year) FY17Q4 / FY18Q4





Engineering Workforce Lifecycle Model by YRE

Defense Acquisition Workforce Lifecycle Model (WLM)
by Years to Retirement Eligibility (YRE) - Civilian (FY2018Q4)



As of 30 Sept 2018

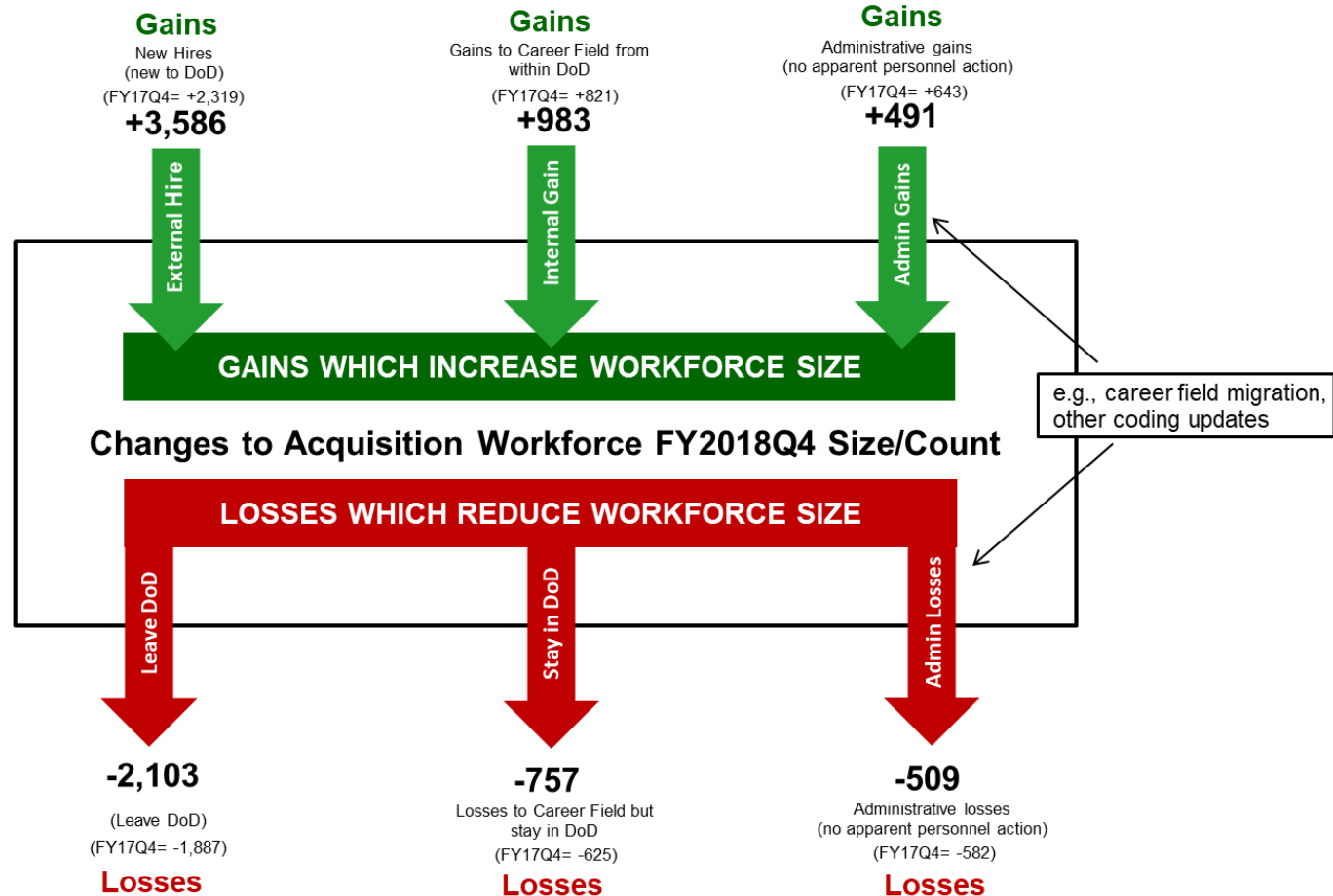


Engineering Gains/Losses – New Hires Internal/External, Administrative



Defense Acquisition Workforce (Civilian) (FY2018Q4)

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

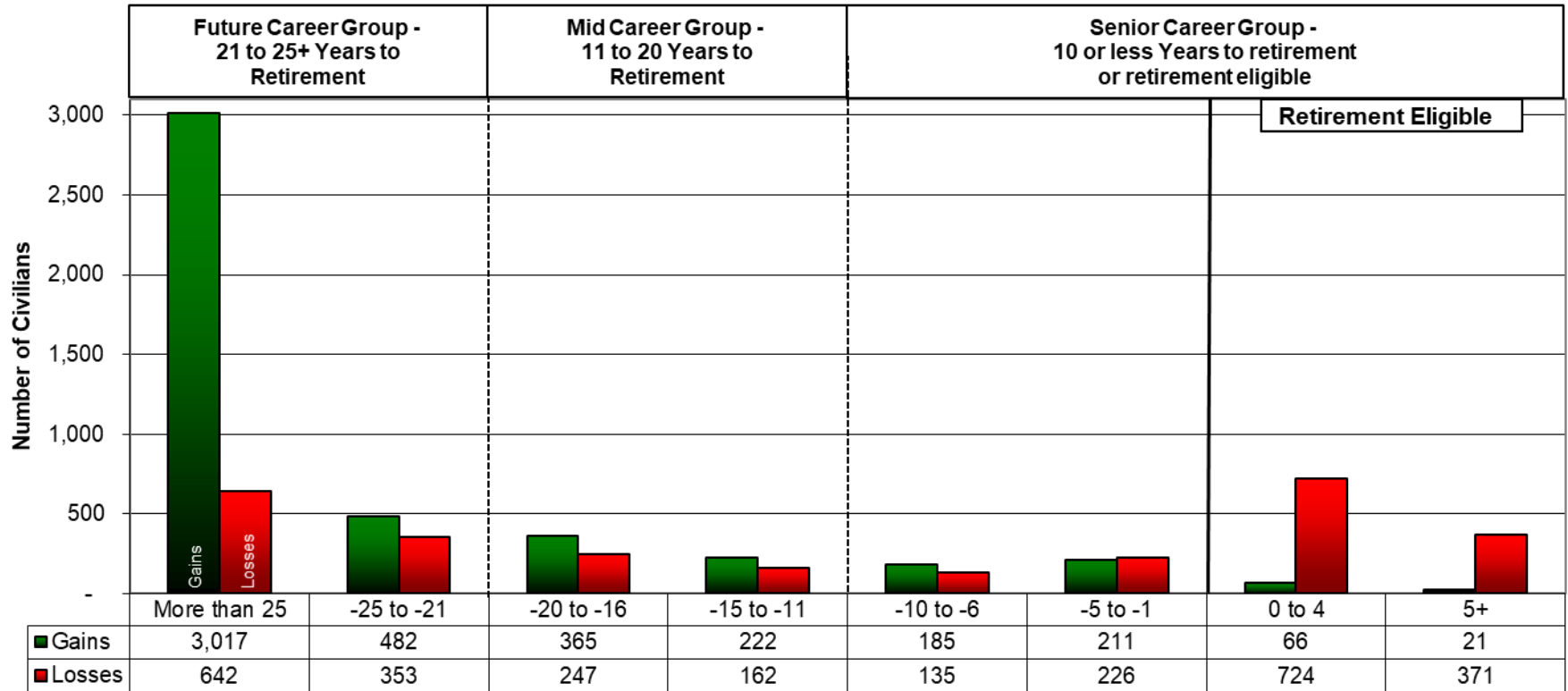




Engineering Gains and Losses by YRE Groups

Defense Acquisition Workforce (Civilian)

Workforce Lifecycle FY2018Q4 Gains & Losses*

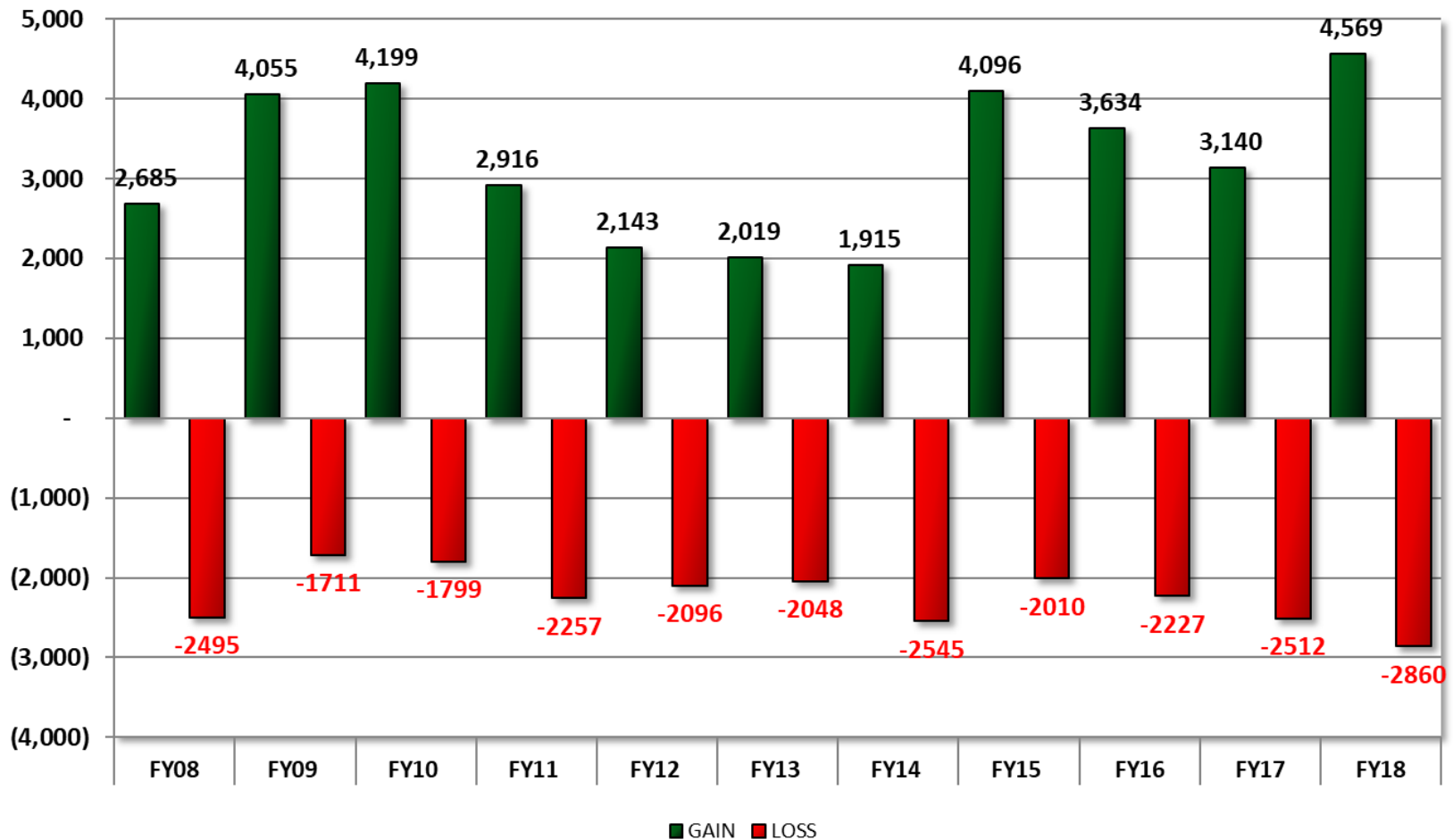


Career Lifecycle by Years to Retirement Eligibility

*Does not include administrative gains and losses



Engineering Historical Gains and Losses FY08 – FY18



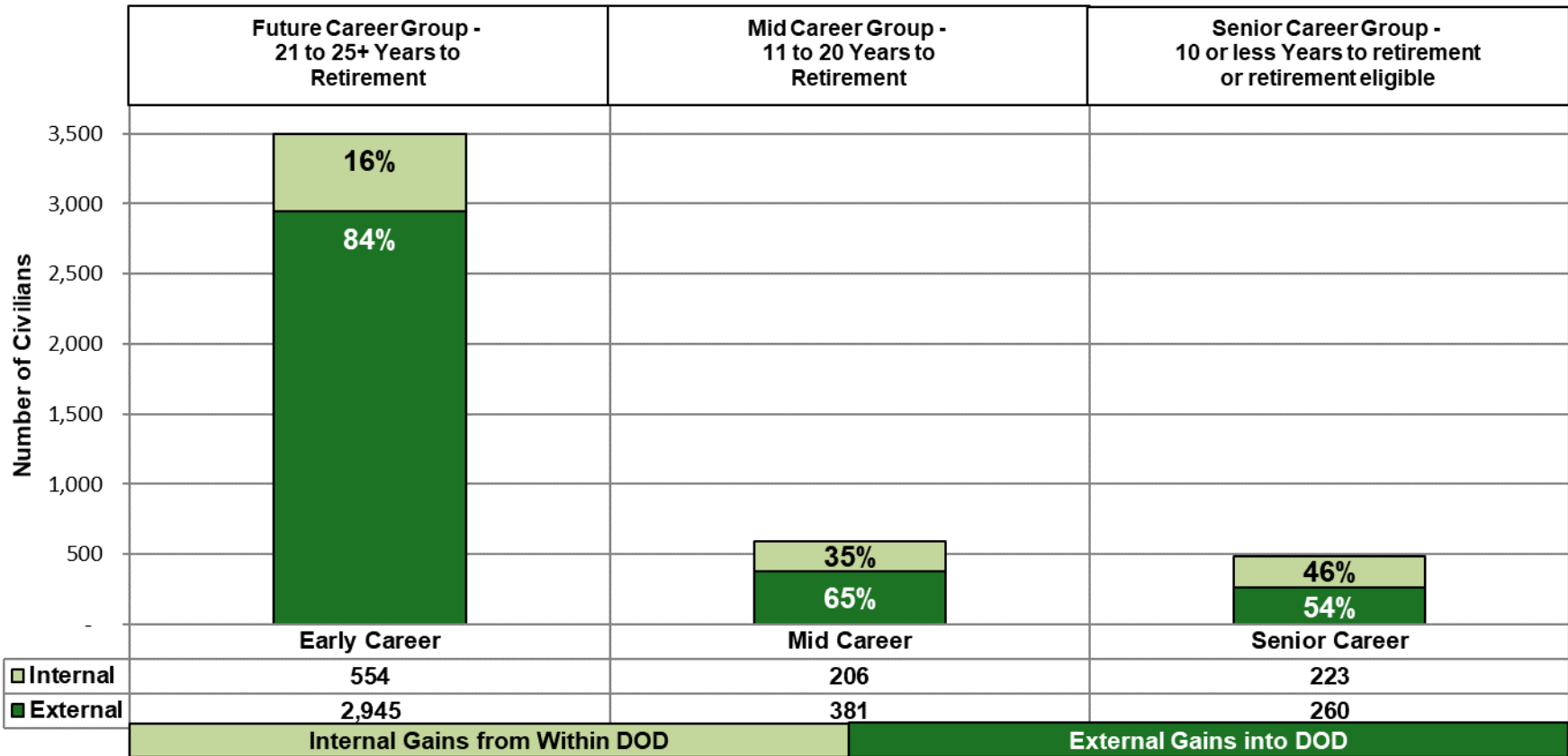
As of 30 Sept 2018



Engineering Internal/External Gains % by Career Group



Defense Acquisition Workforce (Civilian)
Workforce Lifecycle FY2018Q4 Gains*



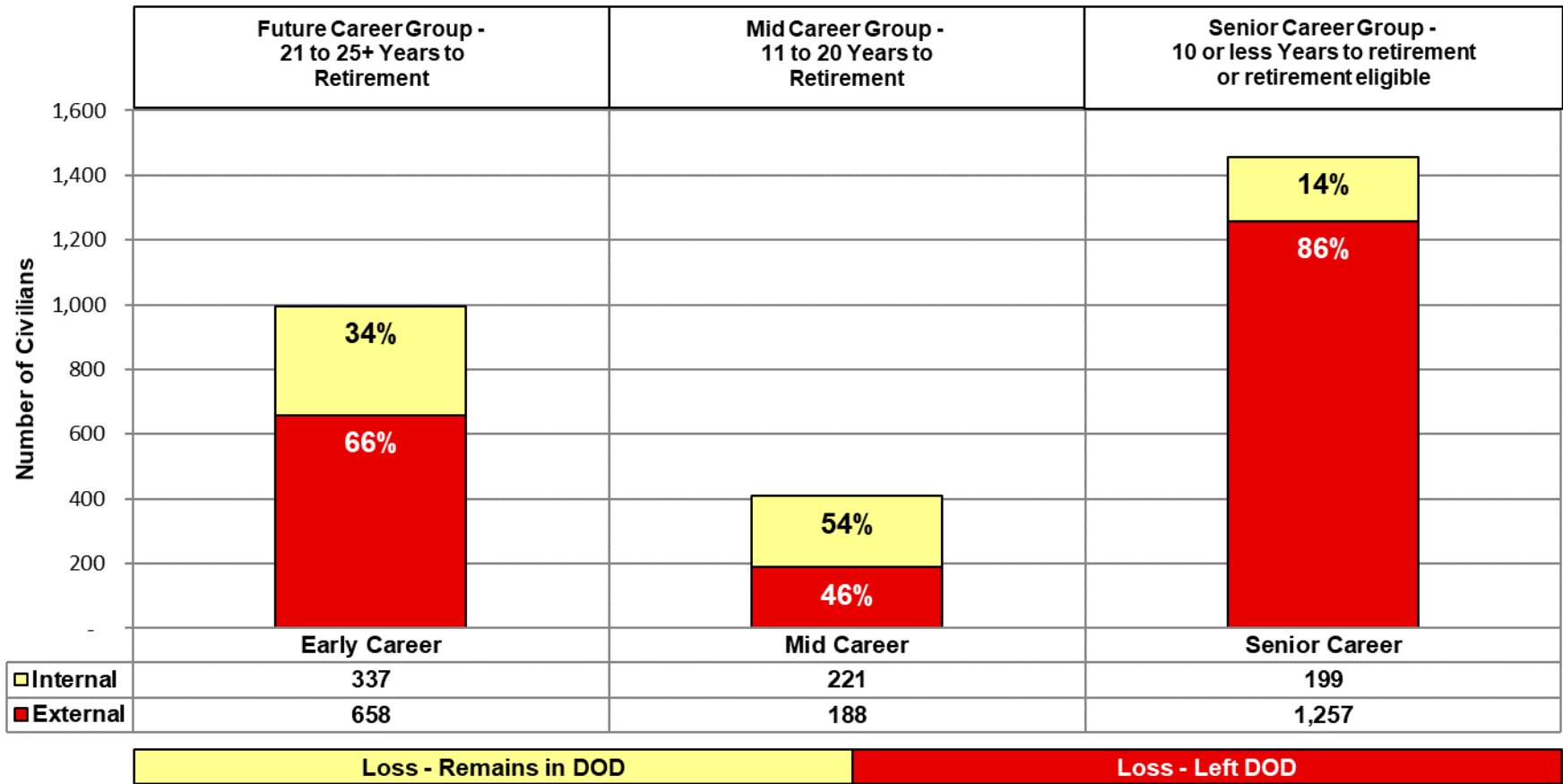
*Does not include administrative gains



Engineering Internal/External Loss % by Career Group

Defense Acquisition Workforce (Civilian)

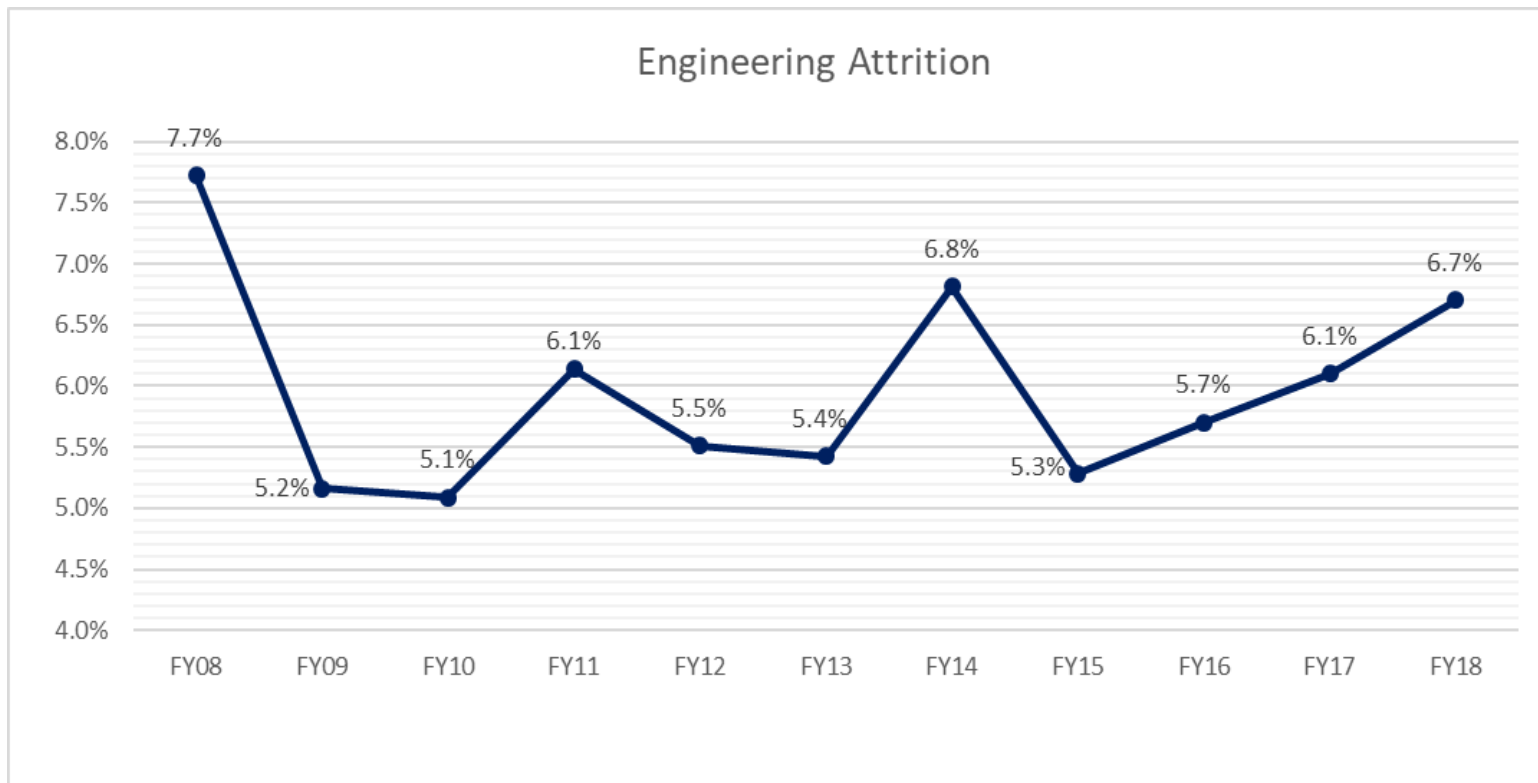
Workforce Lifecycle FY2018Q4 Losses*



*Does not include administrative losses



Attrition Rates



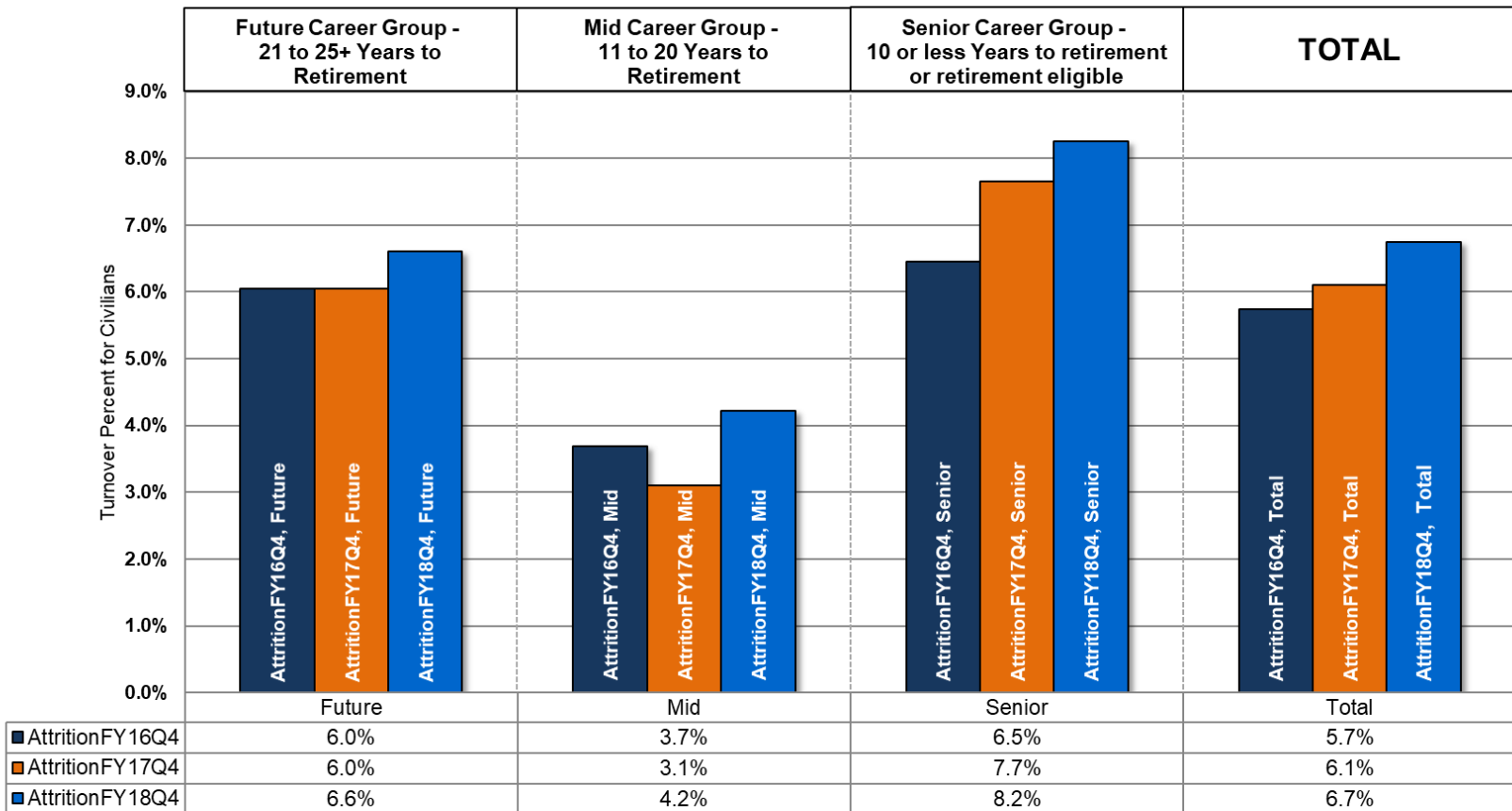
As of 30 Sept 2018



Engineering Attrition Rates by Career Group



**Defense Acquisition Workforce Attrition, (Civilian)
(FY16Q4, FY17Q4, FY18Q4)(by Career Lifecycle Group)**



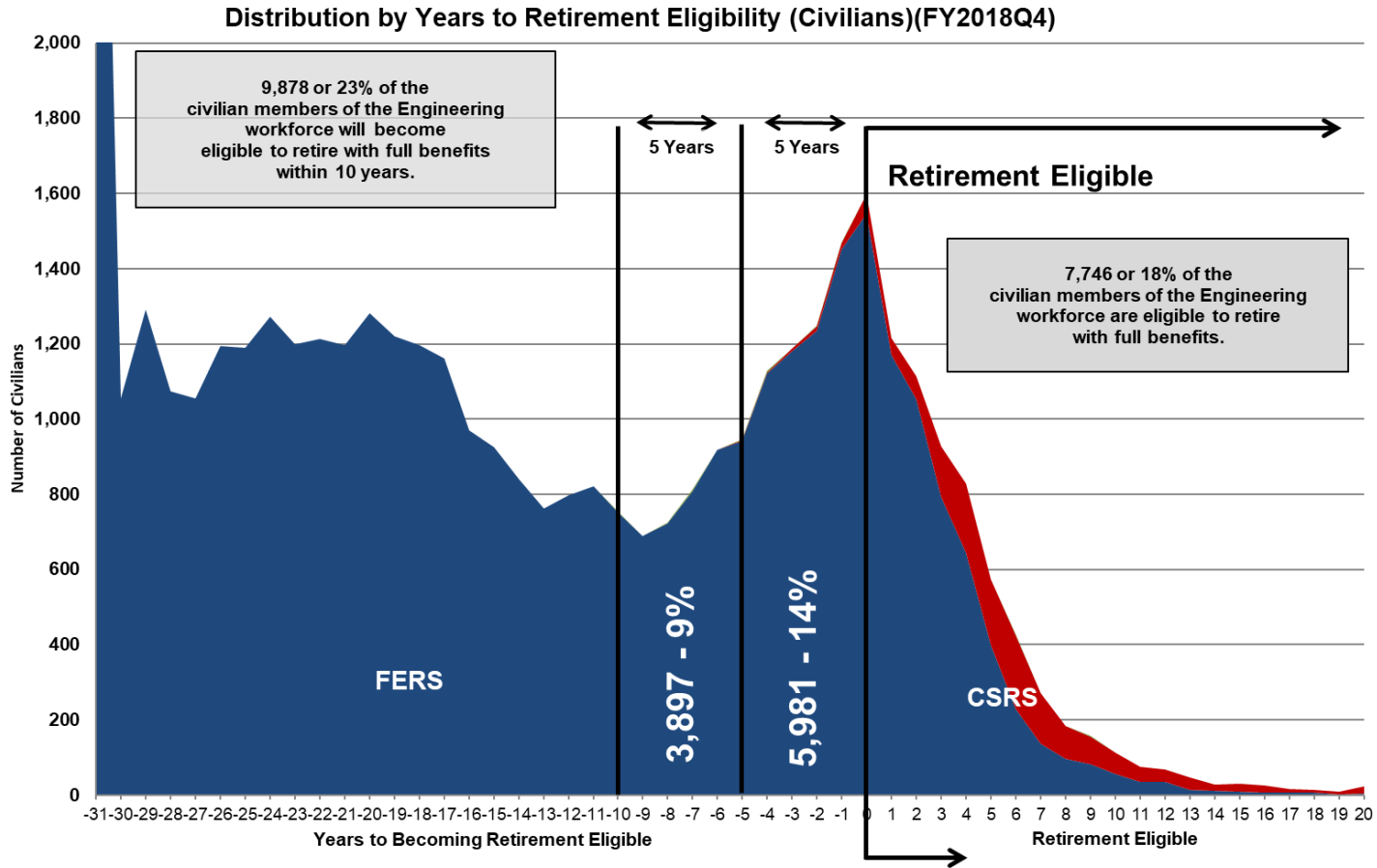
As of 30 Sept 2018



Engineering Civilian Distribution by Years to Retirement Eligibility



Defense Acquisition Workforce



As of 30 Sept 2018



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