

World Military Unmanned Aerial Vehicle Systems

2019/2020 MARKET PROFILE AND FORECAST



World Military Unmanned Aerial Systems

Market Profile & Forecast

2019/20 Edition

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Executive Overview

The Market Outlook

In terms of worldwide military budgets, the unmanned aircraft systems (UAS) segment continues to be a dynamic sector, although annual growth has moderated when compared to previous 10-year forecast periods. The unclassified sector will continue to increase over the next decade, by about 28%, from current

grow modestly. Growth will increasingly shift towards international markets as more militaries adopt the lessons of Iraq and Afghanistan and incorporate UAVs into their forces (see Figure 1). The introduction of specially-built unmanned combat air vehicles (UCAVs) also promises to drive growth over the next decade.

Please note that in our tables and charts “procurement” and “production value” are two different, but related numbers. Procurement, covered in the budget forecasts here, represents the annual amount of production funding included in a country’s annual defense budget, usually on a fiscal-year basis. Production value,

World Military UAS Budget Forecast R&D and Procurement

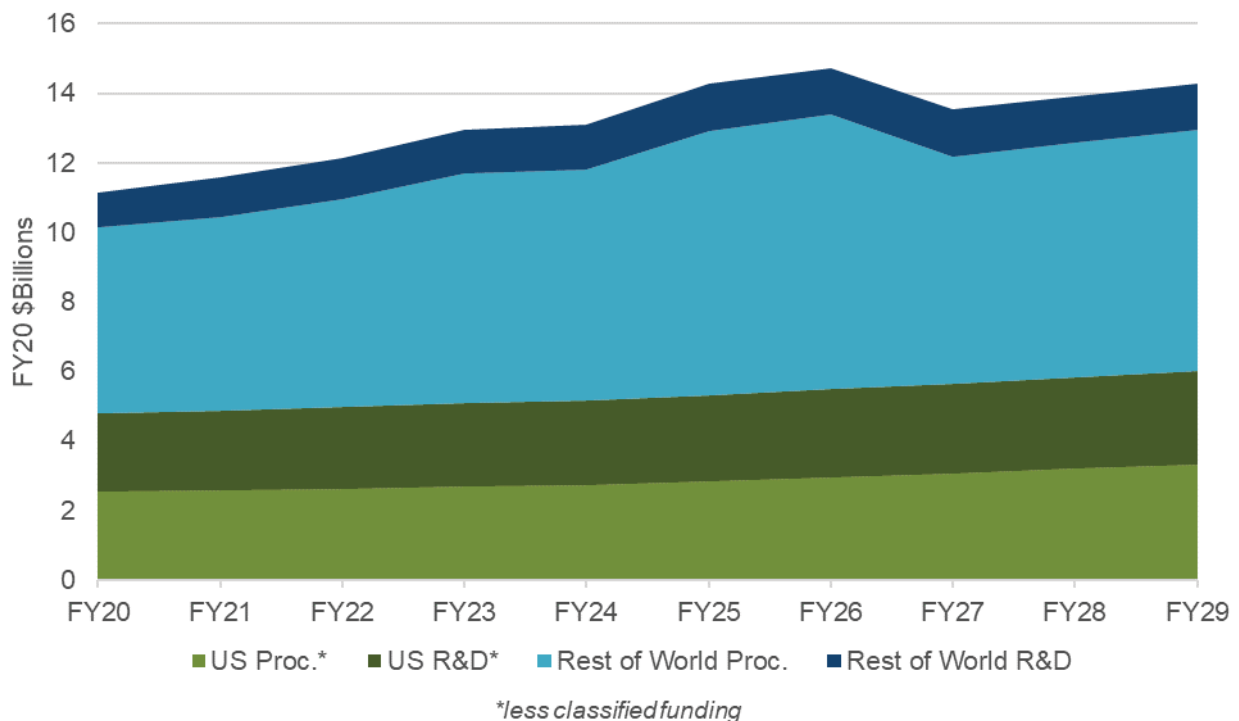


Figure 1

annual spending on RDT&E and procurement of about \$11.2 billion in FY20 to about \$14.3 billion in FY29 (a CAGR of 2.8%). If operations and maintenance expenditures were to be added, these totals would be greater.

This growth is being driven by the continued adoption of unmanned aerial vehicles (UAVs) worldwide. Over the next decade, US procurement will

Now, for the fourth year Teal Group has separated all civil government and commercial UAVs into a separate study in recognition of the strong potential for the future as airspace begins to open worldwide. We have included a brief summary of those findings, however, at the end of this Executive Overview.

covered in the numerous tables in this study, represents the value of UAV systems delivered during a calendar year. In rough terms, the funds “procured” during one-year result in “delivered” units the following year or after.

The most significant catalyst to this market has been the enormous growth of interest in UAVs by the US military, tied to operations in Iraq

and Afghanistan, as well as the general trend towards information warfare and net-centric systems. UAVs are a key element in the intelligence, surveillance and reconnaissance (ISR) portion of this revolution, and

for US classified UAV development and procurement funding (see Figure 2). The value of these “black” programs can only be surmised, with our estimates serving as a likely upper end of the range of potential secret

light when one of the stealth drones came down in Iranian territory.

Teal Group expects that the sales of UAVs will follow recent patterns of high-tech arms procurement worldwide, with the Asia-Pacific

World Military UAS Budget Forecast plus Speculative US Classified

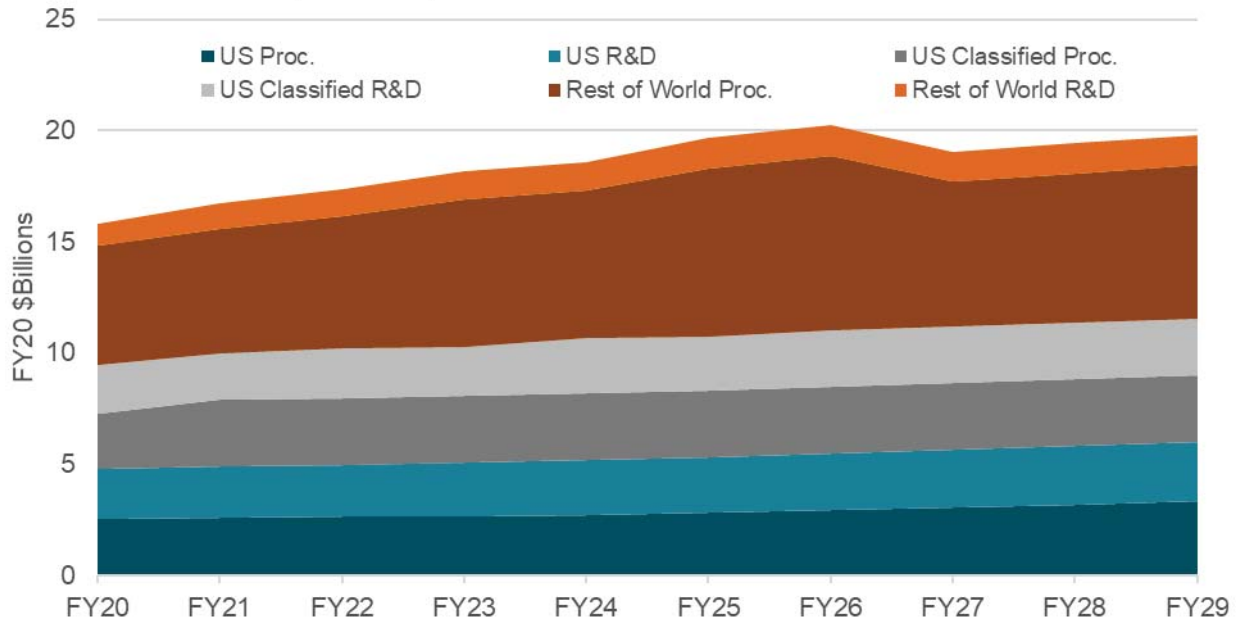


Figure 2

they are expanding into other missions as well with the advent of hunter-killer UAVs.

Our research finds that the US will account for 66% of the unclassified R&D spending on UAV technology over the next decade, and about 30% of the unclassified procurement through the forecast decade. These US UAV funding shares for R&D and procurement represent smaller shares of the market compared to defense spending in general. The US accounts for about 64% of total worldwide R&D spending and 38% of procurement spending, according to Teal Group’s *International Defense Briefing* forecasts.

These percentages change significantly when adjustments are made

monies. With these assumptions, the US accounts for 79% of the world R&D on UAVs and 47% of the procurement.

This difference is due to the heavier US investment in cutting-edge technologies and the marked lagtime in such research and procurement elsewhere, especially major aerospace centers such as Europe. This follows trends in other cutting-edge technologies observed over the past decade by Teal Group analysts in such areas as precision-guided weapons, information and sensor technology, and military application of space systems.

A tangible example of the “black” UAV budget in the US is the RQ-170 Sentinel program which only came to

area representing the second largest market, followed by Europe. Indeed, the Asia-Pacific region may represent an even larger segment of the market, but several significant players in the region, namely Japan and China are not especially transparent about their plans compared to Europe. As in the case of many cutting-edge aerospace products, Africa and Latin America are expected to be very modest markets for UAVs.

Some warnings are needed when viewing the summary tables and charts here. There appear to be wide swings and dips in unit acquisition over the forecast decade, that is not matched by similar swings in the production value. This is primarily due to the volatile mini-UAV market,

which represents very large numbers of air vehicles even though unit costs are extremely low compared to other UAVs, especially the endurance types. This forecast expects a drop in US mini-UAV acquisition as combat operations wind down in Iraq and Afghanistan, which has a significant effect on unit numbers, though not on dollar values. It is also important to note that we are not yet including forecasts for quadcopters, or very small and inexpensive micro-UAVs,

since the numbers tend to grossly distort the unit forecast numbers.

The summary tables below include a budget forecast, as well as UAV production forecasts based on the various program unit forecasts. As can be seen, the procurement aspect of the budget forecast is higher than the production forecast (by value). The procurement forecast captures costs other than the acquisition costs alone, such as modification programs, acquisition of system components including sensors,

ground control stations and support equipment. Since US classified programs are so speculative, we have included two separate budget forecasts here, one that excludes the US classified programs and one that includes them.

The US lines are derived from the US budget procurement forecast found in the US section. The "Rest of the World" procurement line is based on the production forecast, plus a fractional addition to account for the other UAV costs.

World UAS Budget Forecast (excluding US classified budget)

(\$ Millions)	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
World R&D	3,255	3,450	3,546	3,643	3,741	3,830	3,890	3,940	3,992	4,045	37,333
World Procurement	7,904	8,138	8,600	9,304	9,373	10,437	10,847	9,604	9,923	10,253	94,383
Total	11,160	11,588	12,146	12,947	13,114	14,267	14,736	13,545	13,915	14,298	131,716

R&D (\$ Millions)	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
USA	2,255	2,300	2,346	2,393	2,441	2,490	2,540	2,590	2,642	2,695	24,693
Rest of World (RoW)	1,000	1,150	1,200	1,250	1,300	1,340	1,350	1,350	1,350	1,350	12,640
Total R&D	3,255	3,450	3,546	3,643	3,741	3,830	3,890	3,940	3,992	4,045	37,333

Procurement (\$ Millions)	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
USA	2,531	2,580	2,629	2,679	2,730	2,839	2,952	3,071	3,193	3,321	28,525
RoW	5,373	5,559	5,971	6,625	6,643	7,598	7,894	6,534	6,730	6,932	65,859
Total Procurement	7,904	8,138	8,600	9,304	9,373	10,437	10,847	9,604	9,923	10,253	94,383

World UAS Budget Forecast (including provisional US classified budget)

(\$ Millions)	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
World R&D	5,420	5,565	5,766	5,863	6,216	6,205	6,390	6,440	6,492	6,545	60,903
World Procurement	10,404	11,138	11,600	12,304	12,373	13,437	13,847	12,604	12,923	13,253	123,883
Total	15,825	16,703	17,366	18,167	18,589	19,642	20,236	19,045	19,415	19,798	184,786

R&D (\$ Millions)	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
USA	4,420	4,415	4,566	4,613	4,916	4,865	5,040	5,090	5,142	5,195	48,263
Rest of World (RoW)	1,000	1,150	1,200	1,250	1,300	1,340	1,350	1,350	1,350	1,350	12,640
Total R&D	5,420	5,565	5,766	5,863	6,216	6,205	6,390	6,440	6,492	6,545	60,903

Procurement (\$ Millions)	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	Total
USA	5,031	5,580	5,629	5,679	5,730	5,839	5,952	6,071	6,193	6,321	58,025
RoW	5,373	5,559	5,971	6,625	6,643	7,598	7,894	6,534	6,730	6,932	65,859
Total Procurement	10,404	11,138	11,600	12,304	12,373	13,437	13,847	12,604	12,923	13,253	123,883