OUR MARKETS: CREATING VALUE IN

AEROSPACE & DEFENCE

We provide solutions for high-reliability applications across a broad range of platforms operating on land, air and sea. Growth for TT is driven by increasing electrification of these platforms, which supports fuel efficiency and safety.

The global defence market has shown strong resilience in recent years. Moderate expansion is expected to continue as governments invest to maintain state-of-the-art capabilities. While commercial aerospace has been impacted by the COVID-19 pandemic, recovery is expected in the next 3-5 years.

Market trends and drivers

The resilience of the defence market, with a core feature being its moderate correlation to broader economic conditions, has been exemplified by recent history. In 2021 the global defence electronics manufacturing market is expected to have expanded by over 2%. This is a pace reflective of the past seven years, all of which have seen consistent, moderate expansion. Moreover, it is expected that this market will continue to progress steadily in the coming years at a CAGR of 3–4% to 2025.

A central long-term growth driver is the desire of governments to maintain state-of-the-art capabilities. In the US, the market is being driven by investment in R&D and long-term projects such as the fifth generation F-35 JSF and the B21. This reflects the US military's increasing focus on "near peer" competitors such as Russia and China. The US DoD budget is set to increase by 3.7% to $768.2 billion in FY2022. It is expected that global defence budgets will remain constant rather than contract despite inflationary pressures, record high budget deficits, and the potential fiscal consolidation this could provoke. In aggregate, we continue to remain optimistic that our exposure to the defence market will provide growing, high-margin business for decades to come.

Throughout 2021 the commercial aerospace market has been characterised by the gradual alleviation of travel restrictions following the onset of the pandemic. While it is positive that air travel volumes will exceed those of the lows seen in 2020, the effects of the pandemic are lingering. Under base case expectations, where some form of travel restrictions continue, it is expected that demand for small- and medium-sized aircraft will not recover to pre-COVID levels until 2024-5. Whilst the

Contribution to Group

18%

of Group revenue

Expected market growth

3-4%

Aerospace & defence market 2021-25 CAGR

future course of the pandemic is unclear, on balance, the prevailing sentiment in the aviation community is one of cautious optimism.

Irrespective of short-term uncertainty, we continue to see positive long-term trends that suit our capabilities. Fundamentally, the need for more efficient, safer, and environmentally friendly aircraft remains. This drives demand for increasingly advanced electronic systems and applications. This is complemented by further tailwinds comprised of a growing, globalised middle-class population who exhibit greater propensity to travel.

As travel patterns gradually return to pre-pandemic levels, we expect a strong civil aerospace recovery in the next three to five years, driven primarily by narrowbody aircraft deliveries, of at least double-digit CAGR growth 2021-25.

Our response

Within commercial aerospace we are focused on increasing the electronic content of aircraft. Over the near term, this means opportunities lie in helping our customers with the adoption of hybrid models, mid-life electrification initiatives and electronics updates. Presently we are focused on electrically powered sub-systems such as Human Machine Interface (HMI), avionics and actuation. Our ultimate ambition is to enable wholly electrically powered aircraft; as technology progresses we believe that we are well positioned to support customers throughout this transition.

In defence, our central focus is on supporting our customers to reduce size, weight, power and cost (SWaP-C), while simultaneously enhancing command, control, communications, computing, intelligence, surveillance and reconnaissance (C4ISR) capabilities. We have found success recently in providing more integrated, design-led solutions. In these products we have demonstrated greater capacity to deliver SWAP-C improvements, and this is resonating with customers. A recent example is the delivery of a significant increase in the power density of DC-DC converters for a major prime. We expect this to drive favourable shifts in product mix moving forward.

PERFORMANCE-ENHANCING SOLUTIONS FOR SAFE FLIGHT

What we do

From cockpit displays to engine controls and defence systems, our solutions optimise performance and reliability in the harshest and most demanding conditions, while our interior solutions enhance the passenger experience.

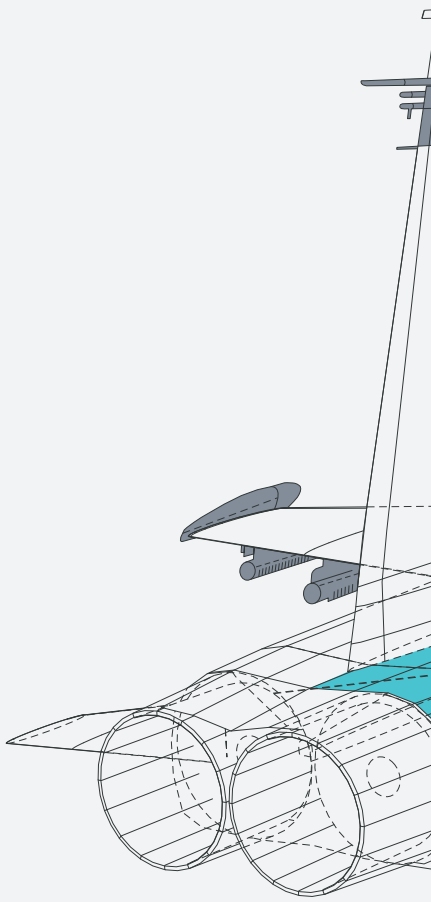
Our products provide size, weight and efficiency benefits for applications such as power conversion, actuation and control for mission-critical systems on a broad range of military and commercial platforms globally.

Market revenue by division

Our market breakdown

- 69% – Power and Connectivity
- 27% – Global Manufacturing Solutions
- 4% – Sensors and Specialist Components

TT Electronics in action

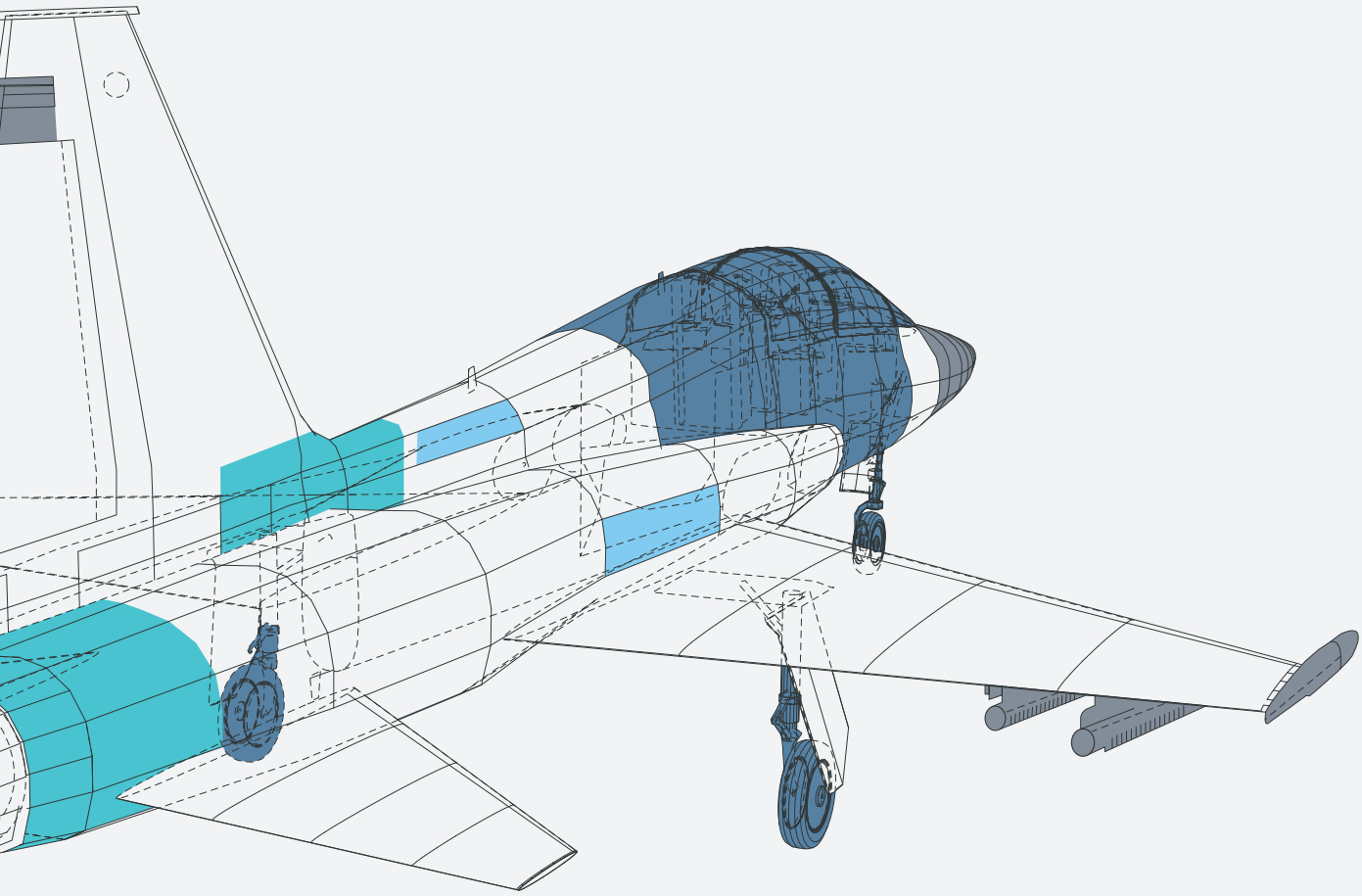


Precision guidance and defensive aids systems

- Laser targeting and inertial navigation systems
- Precision guidance systems
- Radar jammers

Aircraft interiors

- Passenger Control Units
- Cabin signage
- Mood & ambient lighting



Communication, navigation and radar systems

- Global positioning systems (GPS)
- Radar systems
- Communications, navigation and identification

Engine controls and fuel systems

- Engine control unit
- Fuel distribution systems
- Engine ice protection
- Auxiliary power units

Cockpit avionics and flight controls

- Avionics and display units
- Flight controls
- Landing gear
- Joystick controls
- Wing de-icing