

FlightSense™, powered by Ascentia™

# INTELLIGENCE FROM EVERY ANGLE

A complete repair offering of reliable,  
cost-effective and intelligent service



**Collins Aerospace**

# ENABLING YOUR AIRCRAFT AND OPERATIONS TO WORK SMARTER TOGETHER

Every second, a flight takes off with our systems on board – in an aviation industry that is constantly evolving. Your needs from your service providers will change with that evolution and with the changing expectations of your passengers.

That's why we're introducing FlightSense™. It's the intelligent way we keep flights and their systems working together.

FlightSense offers full life-cycle support for reliable, cost-effective and intelligent service. It's backed by a team of nearly 10,000 dedicated professionals, available around the clock and around the world.

**FlightSense™**  
POWERED BY ASCENTIA™

FlightSense is powerful because it's whole. Its intelligence is amplified by our advanced prognostics and health management (PHM) software, Ascentia™, along with our deep systems expertise and the dedicated team of professionals who bring your fleets intelligence from every angle.

We are your close collaborators, committed to solving problems for you – sometimes before you even know there is a problem. We go beyond taking orders and shipping parts. We're improving your fleets from the inside out to build trusting and comprehensive customer relationships.



PRESSURE



FLIGHT HOURS

REPAIR RECOMMENDED



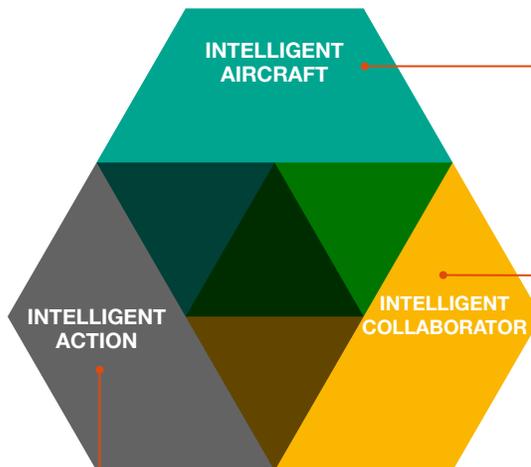
AUXILIARY POWER FAILURE



OPERATING CONDITIONS

## FlightSense, powered by Ascentia

Delays, cancellations and unscheduled events initiate an undesirable domino effect of increased costs and inconvenienced passengers. FlightSense provides the reliability, availability and flexibility to keep your flights and passengers on schedule – no matter the size or maturity of your fleet.



All aircraft are more intelligent with IntelliSight™, our suite of aircraft data management technologies and Ascentia, our advanced PHM solution.

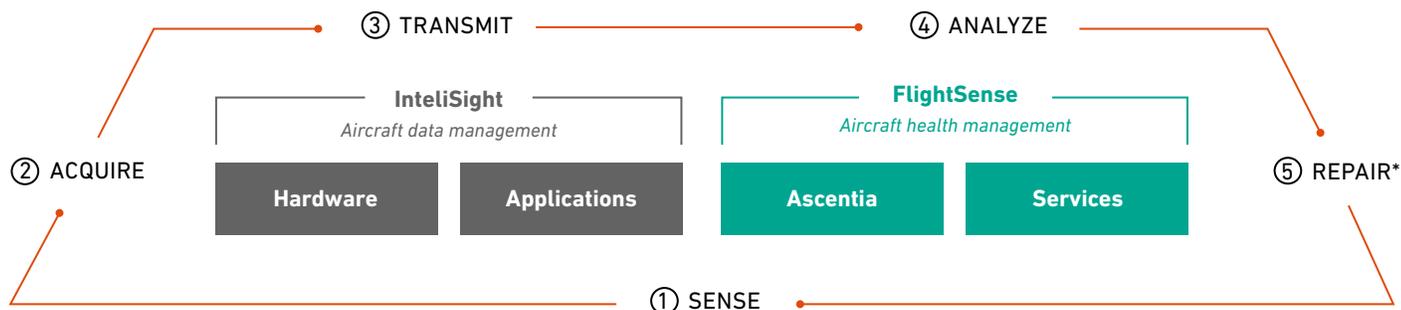
We have nearly 10,000 professionals positioned around the world to be where you need us, when you need us – providing flexible options and smart service.

We design, manufacture and repair key aircraft components. Combining our systems expertise as an OEM with actionable data, we apply smart fixes that reduce time and costs.

**FlightSense is:**  
*Creating more intelligent aircraft.*  
*Powering more intelligent action.*  
*Building more intelligent relationships.*  
**All powered by Ascentia.**

## It's all part of the Collins Aerospace intelligent ecosystem

Comprising a suite of parts, systems and people, our intelligent aircraft ecosystem makes our data-driven services possible.



*\*When it comes to intelligent aircraft, we handle data at every step in the flow – from sensing and transmitting to intelligently applying it to proactive and preemptive repairs. Our data-driven insights are integrated into our Engineering organization to develop modifications, upgrades and next-generation aircraft – increasing reliability, improving connectivity and making air travel more convenient and comfortable for passengers.*

# CREATING MORE INTELLIGENT AIRCRAFT

Systems and sensors are only part of the story –  
we amp up intelligence with the power of Ascentia.

FlightSense goes beyond connected. We apply intuition and expertise to servicing the intricate systems we create, using physical and statistical data from Ascentia to minimize surprises.

Ascentia has provided a measurable advantage for our customers.

## Bringing you true value

Our aircraft data management technologies collect thousands of parameters of data. We combine this data gathering with Ascentia's advanced analytics and our team's smart application of the data to drive action that benefits you in a variety of ways.

**Technically better:** Our systems and sensors collect comprehensive, detailed data about critical drivers of delays and cancellations.

**Science in the sky:** Ascentia provides intelligence beyond statistical analysis, combining physics and machine learning to facilitate the best actions.

**You hate surprises – so do we:** We reduce unscheduled maintenance and service interruptions efficiently and effectively thanks to a powerful combination of expertise and analytics.

**United by intelligence:** In collaboration with United Technologies Digital, our data scientists and user-experience experts work across the United Technologies Corp. portfolio. Together, they bring greater value through integrated digital solutions, practical applications of data and greater connectivity to the Internet of Things.

*Our airline customers have seen a 30% decrease in potential delays and a 20% decrease in unscheduled removals related to Collins Aerospace components.\**

\*The 30 percent decrease in potential delays and cancellations is related to components and systems monitored on the Boeing 787 fleet. The 20 percent decrease in unscheduled removals for various components is related to the Boeing 777 fleet.

# ASCENTIA™

Ascentia is our powerful Aircraft Health Management platform designed to analyze three key inputs:

- Physics-based data
- Statistical analysis
- Machine learning

We use predictive, actionable analytics to reduce unscheduled maintenance, reduce service interruptions, and optimize shop visits. We share a common goal, getting your passengers where they need to be, when they need to be there. Ascentia marries real-time data with advanced analytics to improve operational efficiency and increase reliability.



# POWERING MORE INTELLIGENT ACTION

It's our responsibility to push our customers and our industry forward. We drive intelligent action with our raw systems expertise, our drive for continuous improvement and our commitment to world-class service.

**We build the systems:** As a manufacturer, our unique knowledge makes us best positioned to repair the parts we make. Our expertise and innovation make aircraft more intelligent, integrated and reliable.

**We wrote the book:** Since we write the manuals and design the components, we understand best how to apply repairs that maximize product performance.

**We're always moving:** Never content to rely on current aircraft capabilities, we are passionate in our duty to innovate for the benefit of our customers and industry.

**Data-driven action:** Ascentia enables us to close the loop on repair recommendations, influencing where we position assets, how we coordinate on-wing maintenance activity and how we target repair work scopes.



WE POWER IT.

WE START IT.

WE VENTILATE IT.

WE CONTROL IT.

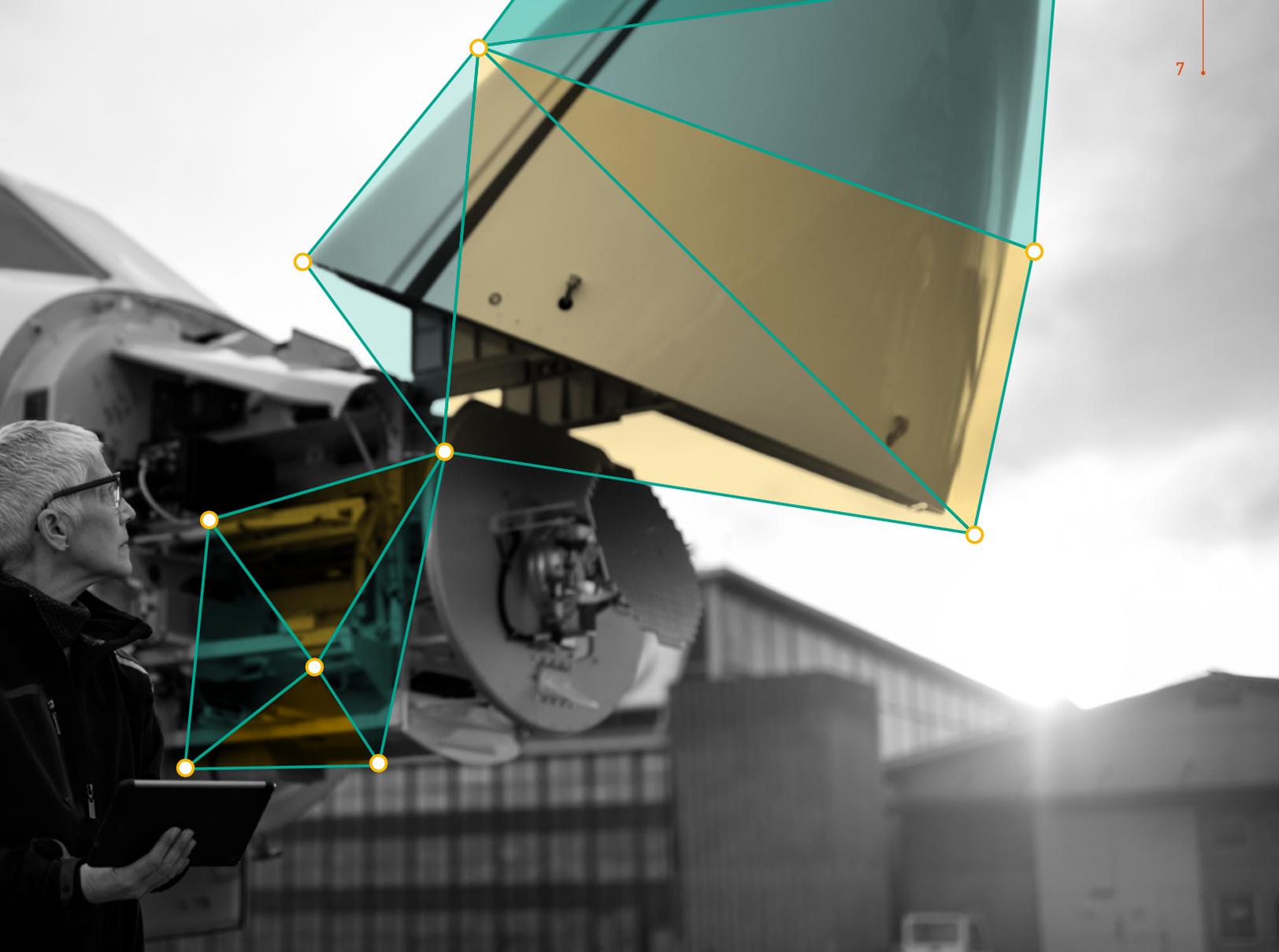
WE MONITOR IT.

WE PROTECT IT.

WE LAND IT.

WE STOP IT.

*THAT MEANS WE HAVE THE  
INTUITION TO SENSE HOW  
TO MAINTAIN IT.*



## The Collins Aerospace advantage

At any given moment  
we have 2.5 million  
components in the air



We design and manufacture the products.



We test for extreme conditions.



We monitor performance.



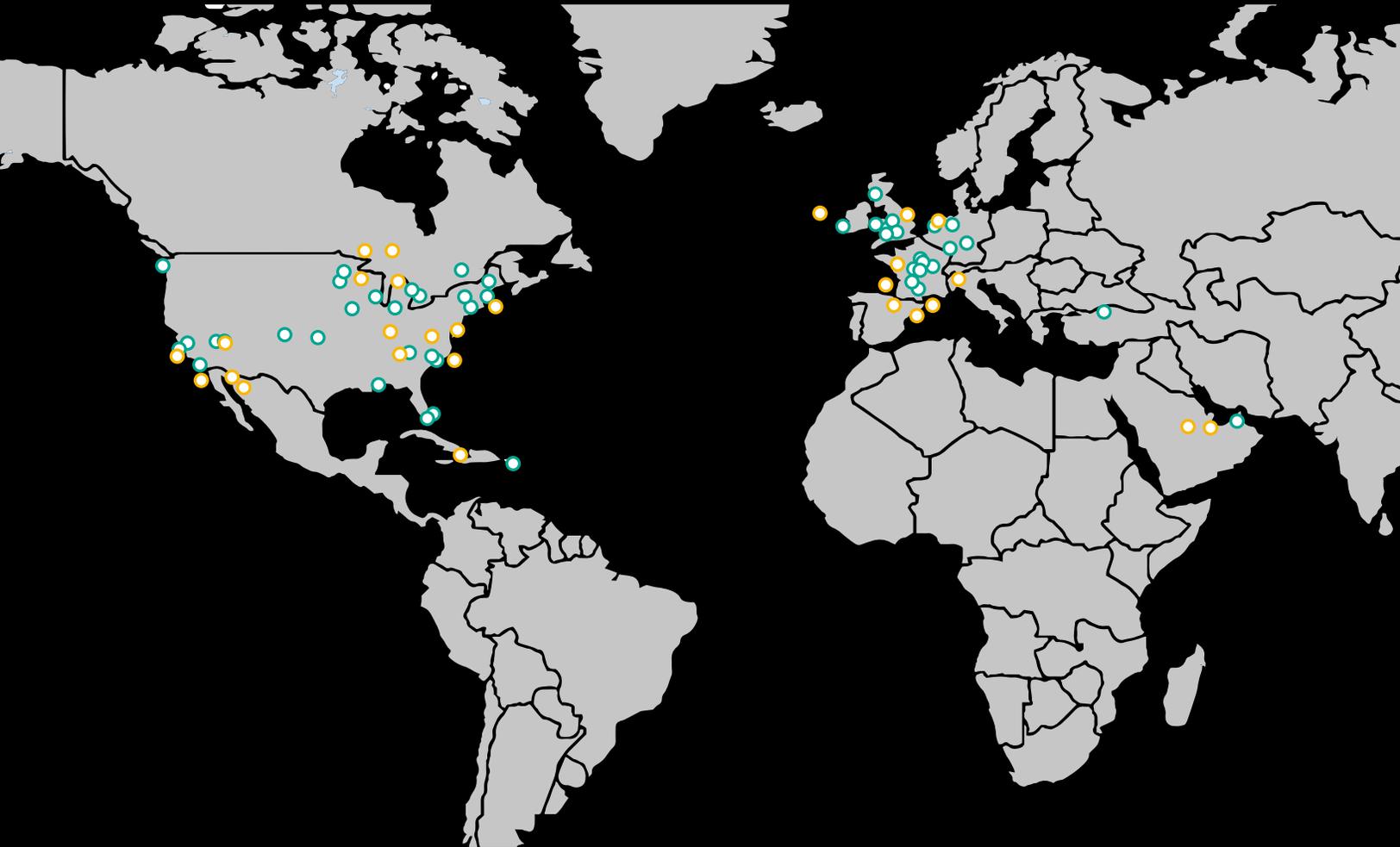
We're best positioned to create flexible,  
unique solutions.

# BUILDING MORE INTELLIGENT RELATIONSHIPS

That means being where you need us, when you need us.

Collins Aerospace can offer you decades of experience, the most comprehensive product breadth across the industry and a service network that spans the globe. This gives us the

flexibility to meet and solve your challenges. We're here to work with you whenever and wherever you need us – via phone, online or in person.



## Our comprehensive support includes:



### SIX 24/7 TECHNICAL AND LOGISTICAL RESPONSE CENTERS

Our customer response centers provide aircraft on the ground (AOG) support and technical product inquiries for our components and systems around the clock.



### TECHNICAL SUPPORT

Our Technical Support team provides performance-on-demand services in the areas of technical issues resolution, training, product issue engineering and document services. The team responds to in-service technical issues and repair support needs for all Collins Aerospace components and systems.



### MODS & UPGRADES

Our suite of options helps bring fleets up to next-generation standards, replacing costly and less-efficient legacy systems with new ones. Modifications and upgrades save costs, improve passenger safety and comfort, maximize efficiency and make aircraft more intelligent.



### FIELD SERVICE NETWORK

Our field service professionals support maintenance and engineering teams through training and troubleshooting, with a focus on maximizing reliability. Our global support network provides prompt responses to inquiries across many of our product lines.



### SERVICEABLE MATERIAL

We've embraced the surplus market and coordinated with VAS Aero Services to ensure the high-quality parts you need arrive on time and at the right price. Our serviceable materials are reviewed and certified against our quality standards.



### CUSTOMER PORTAL

Our personalized, self-service portal interface enables you to search for parts availability and pricing, place spare part orders, check order status and shipping, access technical publications, view invoices – and more.



### WHERE WE ARE

-  MRO facilities (80)
  -  Distribution centers (30)
- ~10,000 employees

# FLEXING TO FIT YOUR FLEET

FlightSense is a simplified offering designed to maximize value and enable you to customize the depth of support you need. Regardless of the repair or asset service you select, you get the

right value at the right price. Intelligent solutions are included with Ascentia at every level of support, in addition to our comprehensive network of skilled professionals.

## Service type

<b>FlightSense Repair</b> PAY AS YOU GO Transactional cost predictability	<b>FlightSense Predictable</b> REPAIR \$ PER HOUR Predictable cost	<b>FlightSense Available</b> ASSET MANAGEMENT \$ PER HOUR Guaranteed availability			
YOUR RISK   YOUR OWN INVENTORY		OUR RISK   OUR INVENTORY			
<ul style="list-style-type: none"> <li>• Cost predictability per event/ work scope</li> <li>• Processing efficiency</li> <li>• Configuration flexibility</li> <li>• Collins Aerospace advantage: parts, labor, expertise and quality</li> </ul>	<ul style="list-style-type: none"> <li>• Reliability to reduce down time</li> <li>• Advanced exchanges for “loaner” components during repairs</li> <li>• Service bulletins to ensure components are reliable, safe and compliant</li> </ul>	<ul style="list-style-type: none"> <li>• Guaranteed availability of assets</li> <li>• Asset buyback for serviceable material</li> <li>• Pooling agreements</li> <li>• Minimal up front investment</li> </ul>			
AVAILABLE SUPPORT	ESSENTIAL	EXPERT ELITE	ESSENTIAL	EXPERT	ELITE

## Depth of support

POWERED BY <b>ASCENTIA™</b>		ASCENTIA – PHM SUPPORT      PRODUCT CONFIGURATION SUPPORT      PRODUCT PERFORMANCE SUPPORT		
		ESSENTIAL	EXPERT	ELITE
DEEPER SUPPORT & INTEL	System health alerts and notifications	Free-of-charge service bulletins	OEM airframer support agreements	
	Proactive fleet monitoring	Total cost of ownership service bulletins	Proactive scheduled maintenance recommendations	
	Dedicated support	Latest product configuration	Preventive product maintenance	

## Making the most of our complete intelligent offering

This next generation of service starts with smarter hardware and advanced software, extends to smart data application with Ascentia and is supported by our global team of experts. With our collective intelligence, we have every angle of support and repair covered.

To learn more, go to  
→ [collinsaerospace.com/flight sense](https://collinsaerospace.com/flight sense)

**Collins Aerospace**

FlightSense@collins.com  
collinsaerospace.com