

Independent MRO

An end-to end
software solution
from IFS



Contents

The Independent MRO industry faces disruptive forces

The cost of MRO now outstrips the cost of acquisition.



Price



Geography

Shifting
Operator
Demands



Consistency



Quality

Airlines are signaling their intent to outsource maintenance—including airframe, engine and line maintenance—and are looking to model their spend on outcomes.

In fact, today more than 60% of heavy aircraft maintenance is outsourced, and that number continues to grow. In addition, record-low fuel prices have truly globalized this market and allowed operators to choose MRO partners based on service and quality rather than simply proximity.

Looking ahead

Independent MROs and OEMs are setting their sights on this market share. Aviation Week's Fleet & MRO Forecast predicts this market will generate revenue in excess of \$100bn globally by 2026.

Independent MROs must be able to deliver exceptional customer service and differentiate themselves in a competitive global marketplace, while remaining compliant and profitable.

"When selecting an airline, price is important but not everything. This is weighed against on-time performance and quality of service."

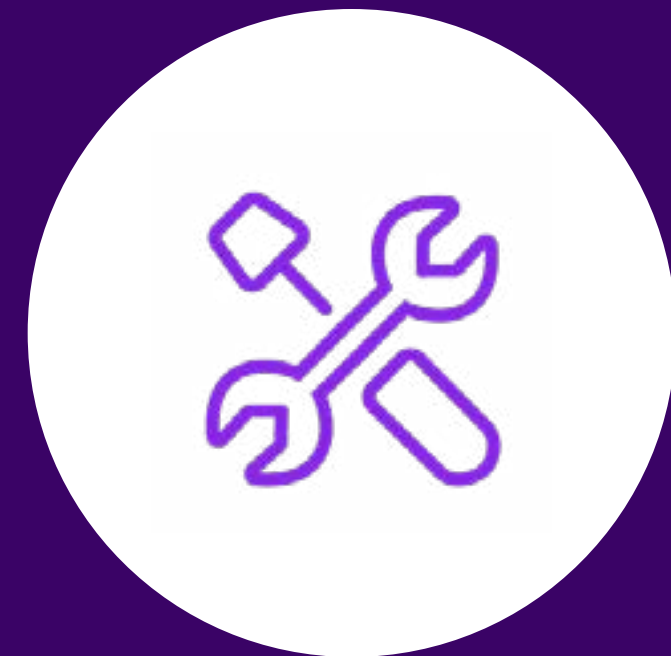
"When selecting an MRO provider, price is important but not everything. This is weighed against on-time performance and quality of service."



Passenger



Airline



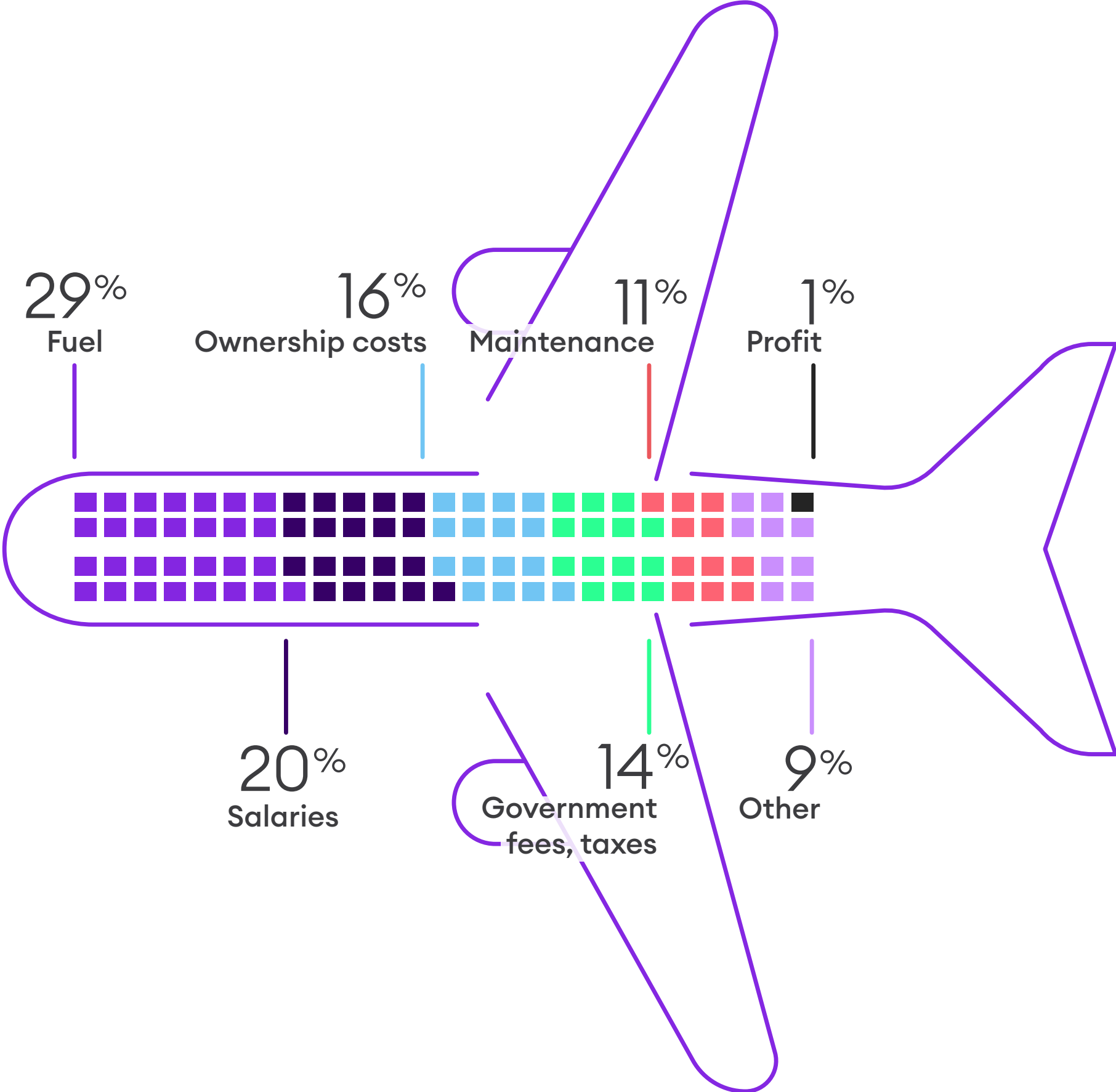
MRO Provider

Bottom line value to your customer

How leveraging maintenance efficiencies can deliver bottom line value.

Maintenance is typically 11% of an airline's costs. With profit margins nudging 1%, reducing that cost by 10% could help double profits for your customers.

On a flight with 100 passengers, it takes fares and fees from 99 seats to cover all costs. Profit = 1 seat.





Enabling competitive MRO business

IFS software delivers value to Independent MRO providers by:

Controlling predictability

- Confidently bid, manage and meet turnaround time commitments

Controlling profitability

- Bid, quote and execute effectively to the terms and conditions of every contract

Controlling quality of service

- Operational oversight, controls to identify quality escapes and prevent recurrence
- Providing consistent customer service in line with expectations

60%

Reduction in work package creation

50%

Reduction in depot tat

30%

Improvement in base maintenance productivity

18%

Timely quoting, status reports, work approvals, and invoicing

BUSINESS PROCESSES



APPLICATION SOLUTIONS

OPERATIONAL INTELLIGENCE

SUPPLY CHAIN EXECUTION				
OPPORTUNITY MANAGEMENT	BIDDING & QUOTING	PLANNING & PREPARATION	EXECUTING TO CONTRACT	RELEASE, INVOICING & REPORTING
<ul style="list-style-type: none"> Opportunity Planning Customer Relationship Management Contract Management 	<ul style="list-style-type: none"> Services Catalog Workscope Loading Production Modeling Non-routine Standards Project Quoting 	<ul style="list-style-type: none"> Production Planning Parts Provisioning Tooling Review Disassembly & Disposition 	<ul style="list-style-type: none"> Production Control Managing to Terms & Conditions Hangar Maintenance Engineering Support Shop Maintenance Planning Shop Maintenance Execution Manufacturing Re-assembly 	<ul style="list-style-type: none"> Cost Tracking Work Order Reporting Technical Invoicing Performance Analysis

SUPPLY CHAIN: Demand Management, Stock Management, Procurement, Warehouse Management, Warranty Management, Tool Control & GSE, Repair Logistics, Material Planning

OPERATIONS SUPPORT: Finance, Human Resources

SAFETY & COMPLIANCE: Employee Skills & License Management, Audit Management, Document Management

An enterprise-wide solution for Independent MROs

In order to streamline their business and optimize efficiency, MRO suppliers need a single technology partner who can embrace every aspect of the MRO enterprise. IFS is the only provider that offers a full end-to-end solution:

- Supports Airframe, Engine & Complex Assembly and Component MRO
- Built-in intelligence, supply chain and compliance functionality
- Delivers everything your business needs from one software vendor



Airframe MRO

Deliver dependable, competitive TAT, eliminate work at risk, and incorporate and institutionalize lean processes.

IFS offers a built-for-purpose Airframe MRO solution for Part 145 Service Providers and OEMs:

- Enterprise-wide process insight and control
- Monitoring of production progress against the plan, quote, and contract
- Every task recorded and accounted for
- More accurate non-routine estimates
- Workforce resources and maintenance process optimization with improved parts availability and intelligent procurement
- Confidently reduce contract contingencies, while maintaining margins
- Increased customer service, increased availability with minimized turnaround times

Engine MRO

For optimized maintenance, improved reliability and enhanced operational efficiency.

IFS offers a solution for Complex Assembly MRO supporting a number of Tier 1 operators, OEMs and Service Providers:

- Enterprise-wide asset management
- Part 145 and Part M Repair Station processes supported with advanced regulatory and safety compliance functionality
- Scarce and expensive workforce resources and maintenance process optimization with better parts availability and smarter procurement
- Better financial performance and improved reliability and maintainability
- Enhanced operational efficiency and control with improved use of facility capacity
- Increased customer service, increased availability with minimized turnaround times
- Designed to support the Engine Center gates process





Component MRO

For optimized turn times, capability and capacity planning, and invoice efficiency.

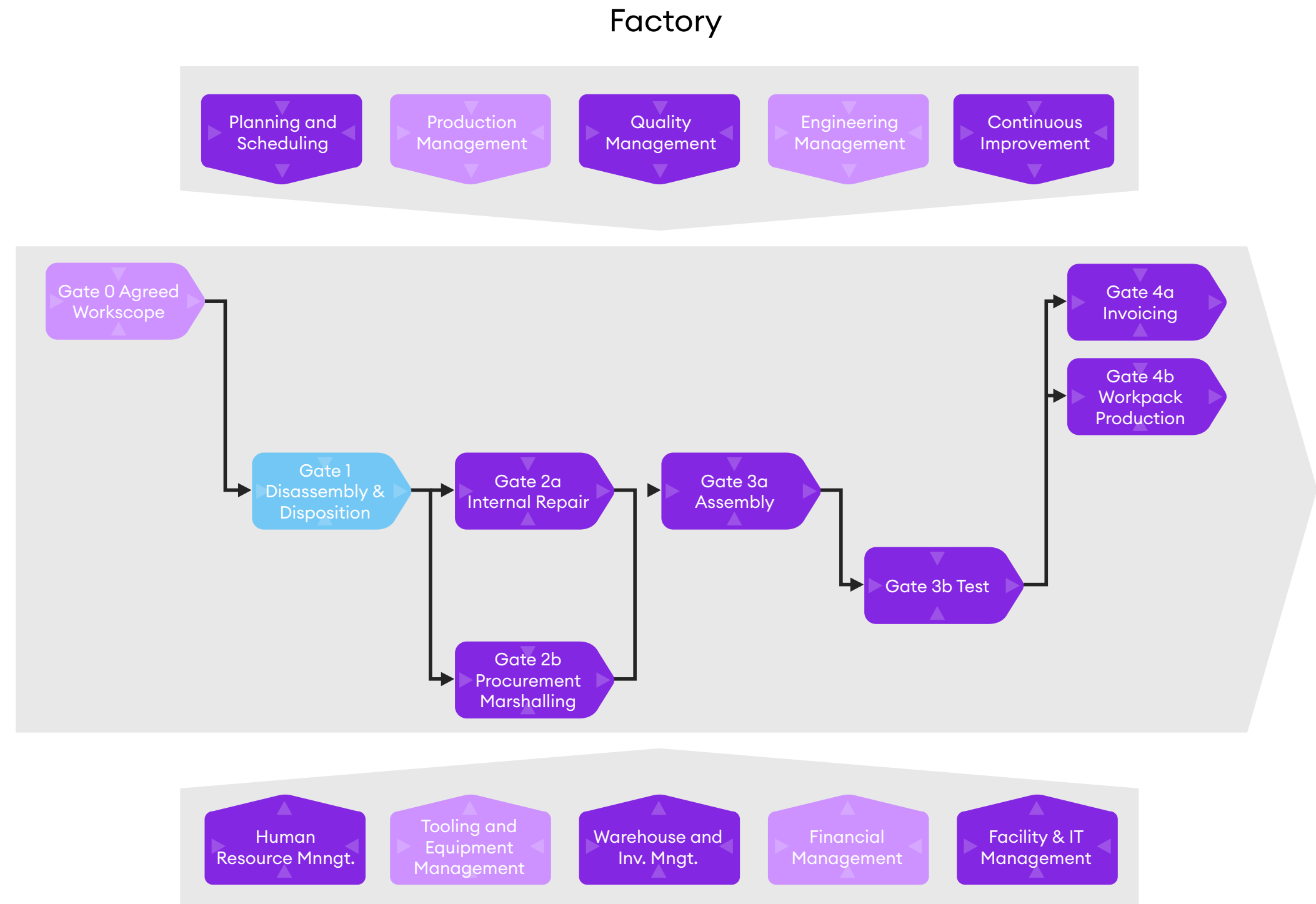
IFS offers a solution for Component MRO supporting Service Providers around the globe:

- Manage services for thousands of mechanical and avionics component types
- Enhanced operational efficiency and control with improved use of facility capacity
- Enterprise-wide process visibility and control
- Workforce resources and maintenance process efficiencies with improved parts availability and optimized procurement
- Increased customer service, increased component availability with minimized turnaround times

Activate your data to gain business insight

To align day-to-day operations with business objectives, organizations need visibility of their entire business to drive efficiency—from assets to operations, through cost control to customer satisfaction metrics. IFS delivers enterprise-wide visibility by connecting to multiple sources of data inside your operation and providing:


- Intelligent business process management for smarter end-to-end operations
- Visual insight, decision support and execution at the enterprise level
- Predictive analytics enabling enterprise-wide scenario planning
- Collaboration support at the business object level (e.g. engine, project, person)
- Multi-organization, multi-system insight
- Predefined ‘cockpits’ that support the process view associated with functional services



User friendly design

MRO users of IFS Cloud™—whether responsible for opportunity management, bidding and quoting or planning and production—benefit from a role-specific and user-configurable dashboard presenting them with the information they need to do their job.

MRO SHOP VISIT Back Shop Site=90



VISIT DEFAULTS

Customer	Name	Part No
11000	American Airlines	11000
12000	United Airlines	11000
13000	Southwest Airlines	11000
BA	Basic Airline	980A
BA	Basic Airline	GE90-115C

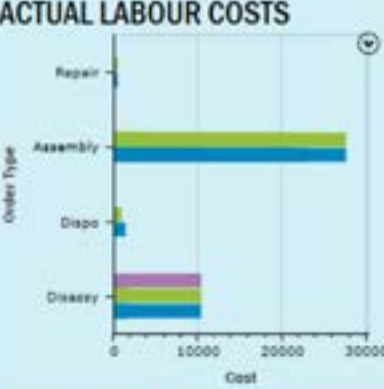
ACTUAL VS PLANNED TAT

Shop VL...	Order Code Type							
	Disa-Pln	Disa-Act	Dispo-Pln	Dispo-Act	Rep-Pln	Rep-Act	Ass-Pln	Ass-Act
200271	4	64	1	61	0	0	10	32
200273	5	23	6	22	0	0	12	0
200274	0	1	0	0	0	0	8	0

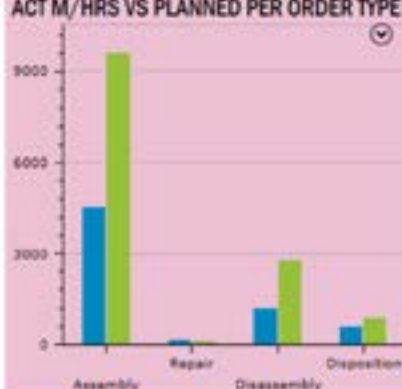
ENG & APU SHOP VISITS

Customer	Serial No	Part Descr	Start Date	Finish Date	State
BA	PW-09-8766	Auxiliary Power Unit	07/09/2017	02/11/20...	✓
BA	909-087483	Engine, Turbofan	20/07/2017	31/08/20...	✓
BA	876574	Engine, Turbofan	16/08/2017	22/09/20...	✓
BA	787-090-464	Engine, Turbofan			✓

ACTUAL LABOUR COSTS



ACT M/HRS VS PLANNED PER ORDER TYPE



ENG/APU PROGRESS GATES 1 - 3

Shop Visit ID	Order Type %			
	Disassembly	Disposition	Assembly	Repair
200271	90	90	13.3333333333333	0
200273	20	21.7807142857143	10.0500000000000	12.5
200274	90	90	10	0

ENG/APU ORDER STATUS

Part No	Order Code	Material	Operation	Product	Order State
115C/72-01-01-A	Disassembly	✓	✓	✓	▲
115C/72-01-01-A	Assembly	?	?	✗	●
115C/72-00-10	Disassembly	?	?	✗	▲
115C/72-00-10	Assembly	✗	?	✗	●
115C/72-09-01	Disassembly	✓	✓	?	▲

LABOR LOAD PAST DUE

Labor Class	Description	Labor Load
TC	Test Cell	2,121
INSP	Inspectors	874
AT	Assembly Te...	670
DT	Disassembly...	382
DIS	Dispatch and...	72

ENG/APU VISITS AWAITING CLOSURE

0

PARKED OPERATIONS


0

COMPONENT REPAIR - MRO SHOP VISITS Back Shop Site=STASY

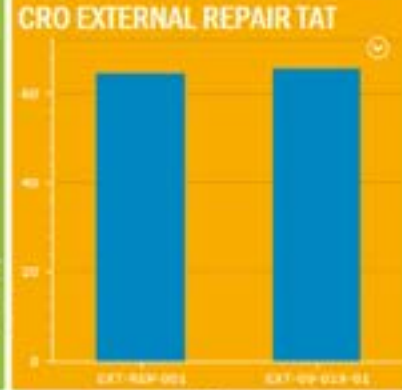
SERVICE CONTRACT

Contr...	Customer	Part No	Service	Invoice	Price	Cap	TAT	UOM	State
STASY...	STASY-A	3214446-4	REP	Fixed P...	5000	10	d		●
STASY...	STASY-A	3214446-4	DAM	Fixed P...	2000	15	d		●
STASY...	STASY-A	3214446-4	OH	Fixed P...	2000	20	d		●
STASY...	STASY-A	3214446-4	QANDA	Fixed P...	2000	20	d		●
STASY-A	STASY-A	3214446-4	REP-1	Resour...	2000	10	d		●

CRO AVG TURN AROUND



CRO EXTERNAL REPAIR TAT



SUPPLIER AGREEMENT

Agree No	Supplier	Part No	Buy Price	Disc %	Price UOM	State
STASY-SV-B	STASY-SV	EE-09091-10	5.76	5	m	✓
STASY-SV-B	STASY-SV	C2W20404	6.37	5	EA	✓
STASY-SV-B	STASY-SV	AG-UR0999...	5.7	5	EA	✓
STASY-SV-B	STASY-SV	891009	14.44	5	I	✓
STASY-SV-B	STASY-SV	789003	124.5	5	I	✓

TO DO LIST

- Open Shop Orders 19
- Operations to assign 0
- Operations to reserve 0
- Pick lists to print 0
- Shortages to resolve 0

COMPONENT MRO VISITS

CRD	Part No	Tracking ID	Owner	Start Date	Completion
56	3214446-4	TL-090-0912	STASY-A	16/03/2018	22/03/2018
47	3214446-4	TYRUE-0094	STASY-A	09/01/2018	11/01/2018
46	3214446-4	STA-000121	STASY-A	05/01/2018	10/01/2018
45	3214446-4	T01-0211	STASY-A	13/12/2017	15/12/2017
45	3214446-4	STA-D0994031	STASY-A	13/12/2017	15/12/2017

PARKED OPERATIONS

0

PARKED SHOP ORDERS

0

TOOLS REQUIRING CALIBRATION

Part No	Serial No	State	Cal Req	Last Cal	Next Cal
TQR250E	3703432	InFacility	Calibration R...	02-03-2017	01-09-2017
TQR250E	370354	InFacility	Calibration R...	03-05-2017	02-11-2017

PARTS SCRAPPED

Part No	Serial No	Ownership	State	Customer	Condition	Status
X72BANT011	X10713	Company...	Unlocated		Non Operat...	Scrapped
X32AXL7003	WA-901	Company...	Unlocated		Non Operat...	Scrapped



IFS software enables MRO businesses to deliver:

Reliable results

Confidently meet and manage turnaround time (TAT) commitments with incomparable visibility into project status, identification of potential impacts to the critical path, and in-process access provided to all project stakeholders.

Unparalleled production planning and control

Eliminate non-productive activities with automated processes, electronic data capture, and point-and-click work packaging.

Superior contract management

Effectively bid, quote, and execute to the terms and conditions of customer contracts, eliminating work-at-risk

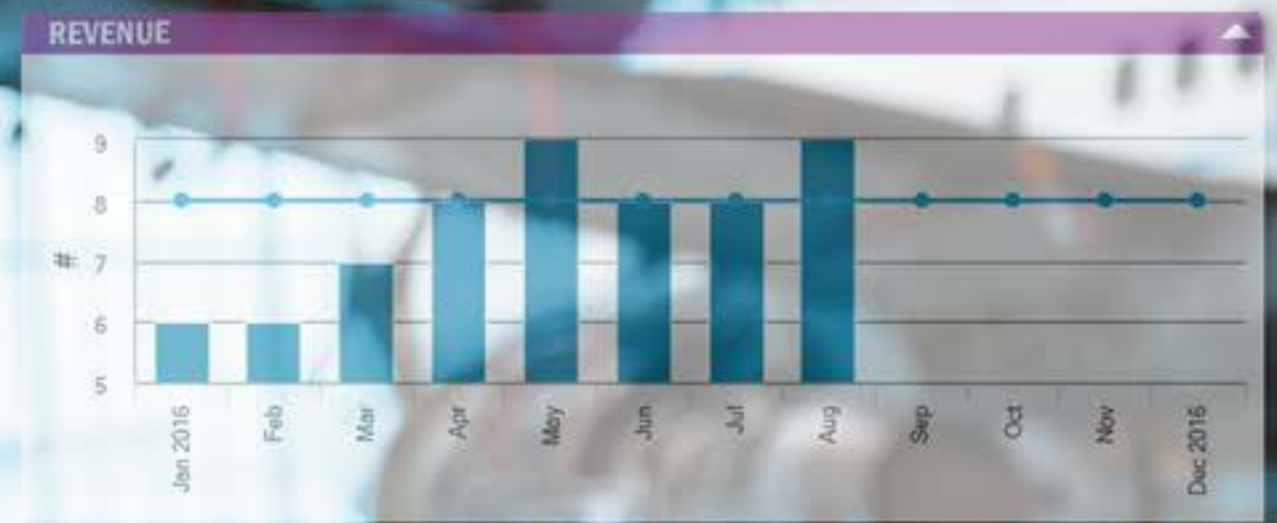
through automated notification of contract exceedances and real-time client approval processes.

Comprehensive materials management

Accurately oversee parts demand, fulfillment, inventory and warehouse management, purchasing, component repair, and warranty tracking through full supply-chain functionality.

Continuous improvement

Drive refinement into ongoing operations through a continuous feedback loop which integrates past-project performance into future-quoted work and key performance indicator (KPI) thresholds.



Why IFS for Independent MRO?

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations.

Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers—at the Moment of Service.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector.

Our team of 4,000 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers. Learn more about how our enterprise software solutions can help your business today at [ifs.com](https://www.ifs.com).

#MomentOfService

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