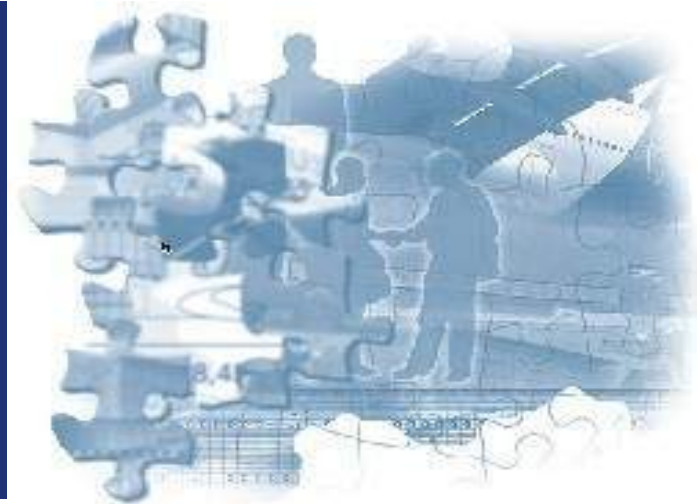Presented by

Carlo K Nizam (Airbus)
Head of Value Chain Visibility and Auto-ID

Airbus Executive Overview
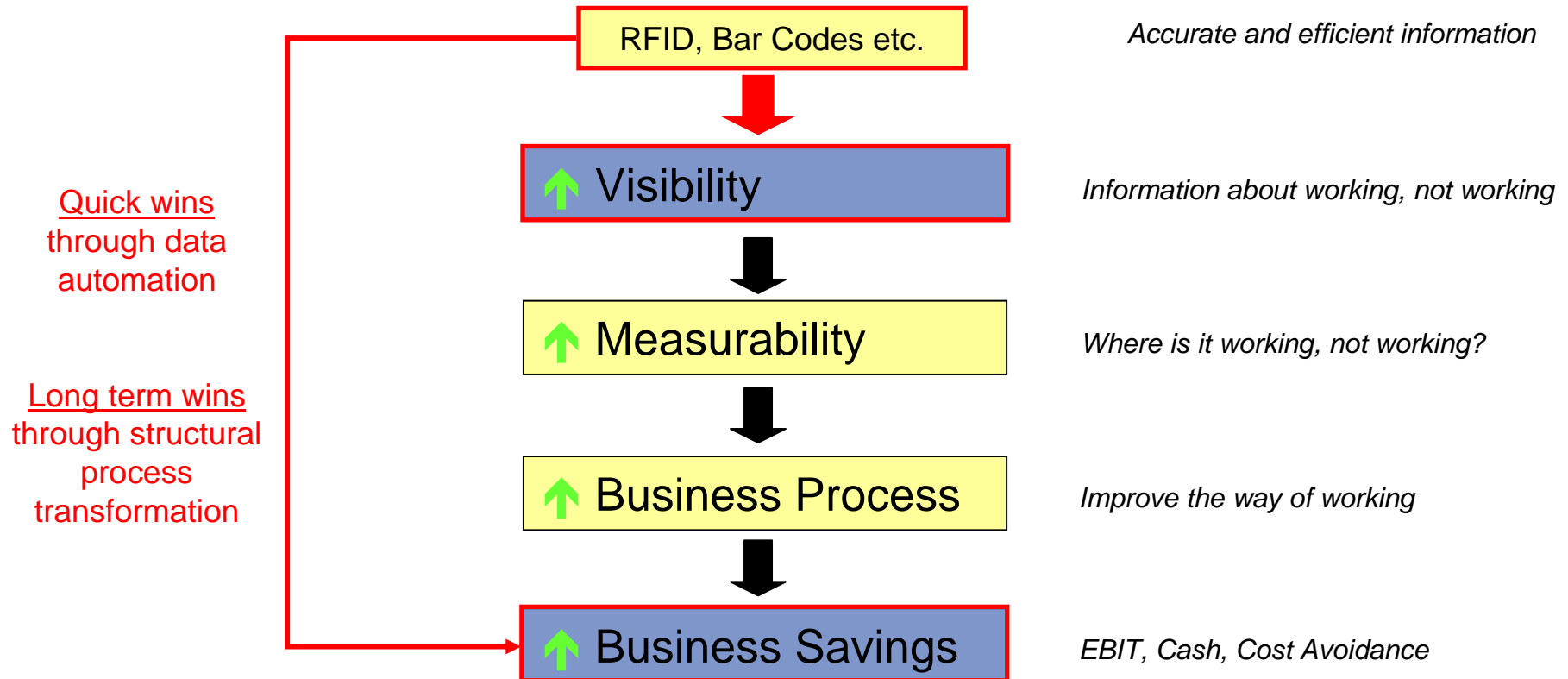
Value Chain Visibility & Auto-ID

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HISTORY

- Collection of 15 independent projects

- Fragmented approach; multiple standards, solutions and vendor landscape

- Creation of multi-function Auto-ID Steering Committee

- Company strategy, consolidation and prioritisation of activities

- Agreement to develop a harmonised approach and solutions for deployment

- Analysis of benefits, pilot proof points, bottom up business cases, industrialisation

- Selection of standard solutions and services for Airbus/EADS

**Clear pull from internal/external customers
ONE Airbus approach**

Why Increase Visibility? Why RFID?

RFID, Bar Codes etc. — *Accurate and efficient information*

↑ Visibility — *Information about working, not working*

Quick wins through data automation

↑ Measurability — *Where is it working, not working?*

Long term wins through structural process transformation

↑ Business Process — *Improve the way of working*

↑ Business Savings — *EBIT, Cash, Cost Avoidance*

Improving visibility is a pre-requisite to improve the "way of working" and deliver business savings

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Visibility, Measurability and Savings
They are all connected

Improved Accuracy Control Efficiency of Processes

Automated visibility with high level of measurability (e.g. RFID)

Semi-automated visibility with increased measurability (e.g. bar code)

Manual based visibility with low measurability (e.g. manual data entry)

Improved Business Savings
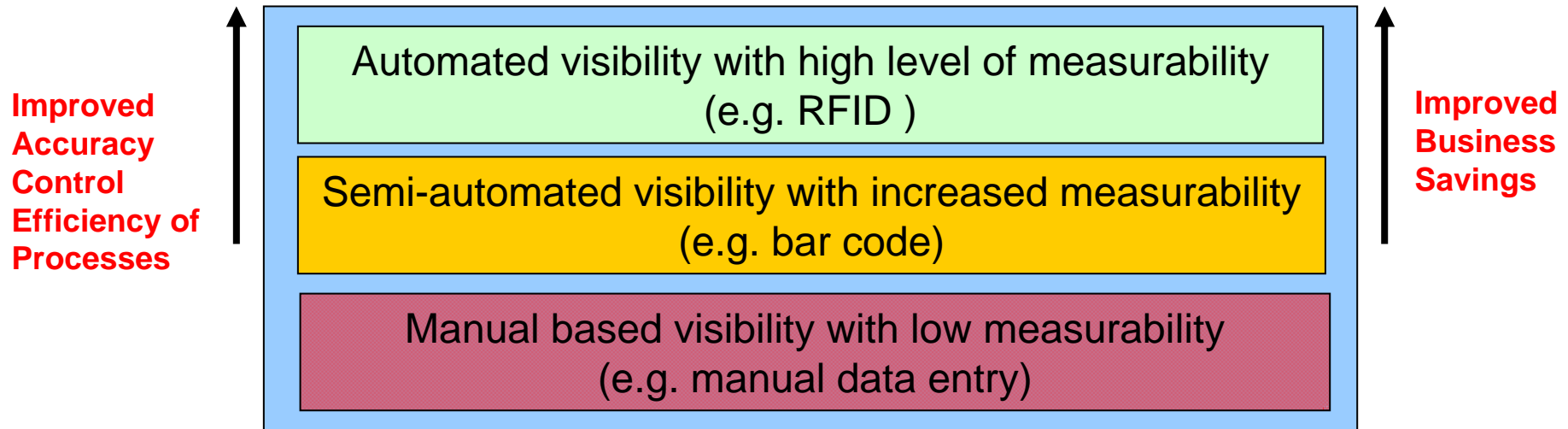
- All business savings come from improving a "way of working" i.e. process

- Level of visibility and measurability determines level of process improvement

- RFID can help improve level of visibility and measurability → savings

The level of visibility and measurability determines the level of savings possible; RFID is an promising enabler to increase this level of savings

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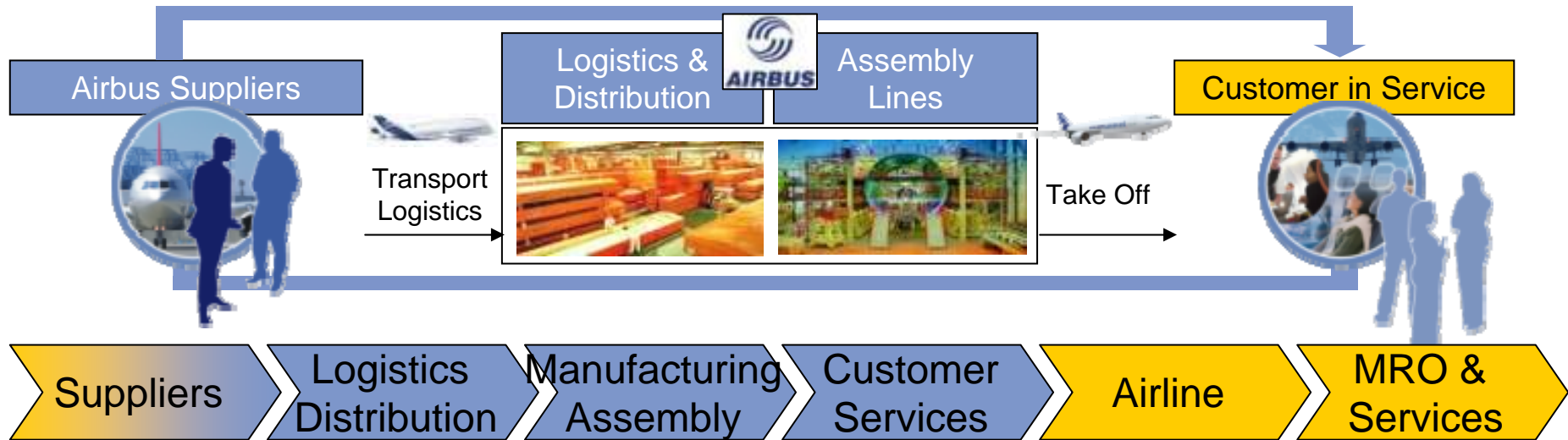# What is Value Chain Visibility and Auto-ID?
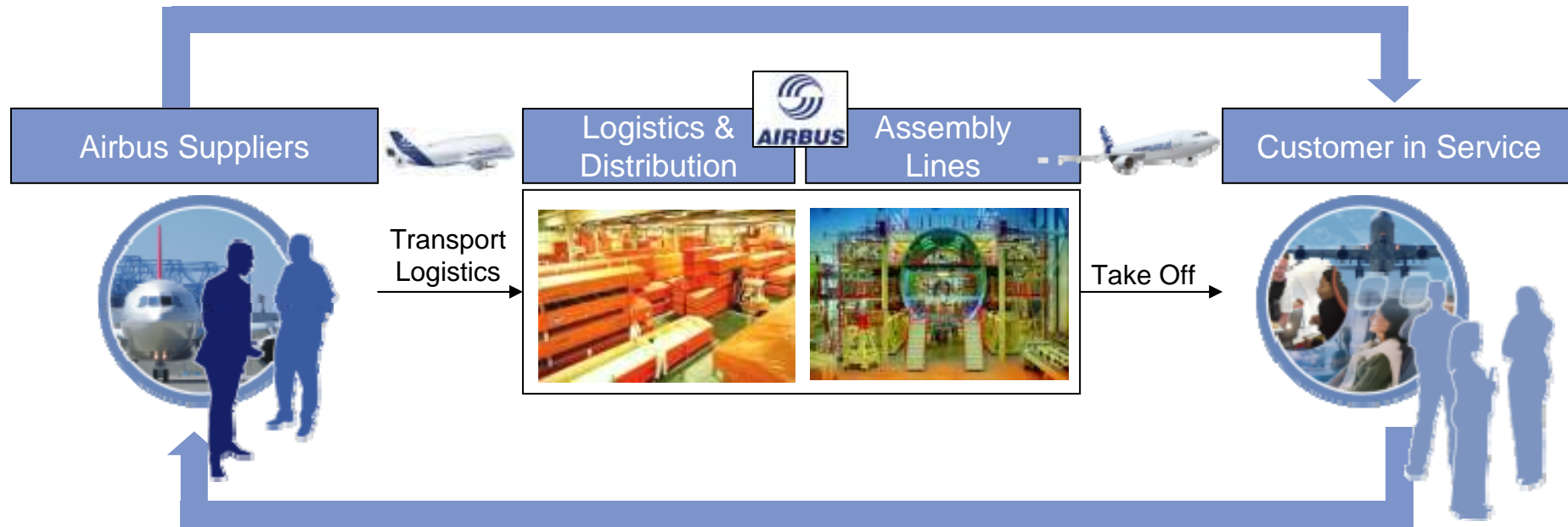
- Company approach to improve business processes through better visibility
- Scope is focused on big picture; Airbus value chain not functional silos
- RFID is seen as a key enabler to improve visibility & business processes

Airbus is taking an integrated and value chain approach for the potential application of Auto-ID across its business processes

VALUE CHAIN VISIBILITY
Two categories of Visibility

| Airbus Suppliers | | Logistics & Distribution | Assembly Lines | | Customer in Service |

Transport Logistics — Take Off

| Suppliers | Logistics Distribution | Manufacturing Assembly | Customer Services | Airline | MRO & Services |

NON-FLYABLE VISIBILITY

- Warehouse Logistics and Inventory Management
- Generic Asset Tracking (Containers, Spares, Tools, Jigs)
- Global Transport Network
- As-Built Configuration Management and Attestation
- Tool Loans and Consignment Stock

FLYABLE VISIBILITY

- As-Flying Configuration Management Processes
- Optimized Maintenance Repair & Overhaul Process
- Luggage operation
- Cargo operation
- Catering operation

VALUE CHAIN VISIBILITY
3 Release Approach

Pilots in progress
Deployment in progress

Pilots in progress,
Deployment in progress

2 pilots completed in 2006,
Deployments in progress

SCOPE IN VALIDATION PHASE

- AS FLYING Configuration
- Maintenance and Repair
- Payload and Cargo

Includes the Flyable Processes identified during the Airline RFID CFG in March 2006

SCOPE FROZEN

- Global Transportation
- Industrial Processes
- Manufacturing and Assembly

SCOPE FROZEN

- Supply Chain Tracking
- Warehouse Logistics
- Asset Tracking

Release 1	Release 2	Release 3
Non Flyable		**Flyable**

3 Release Approach; Each with specific scope of improved standardised processes and providing benefits across the value chain

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BENEFITS
Increasing Visibility Through RFID

Strat... ...matic up... ...hain

...atio...

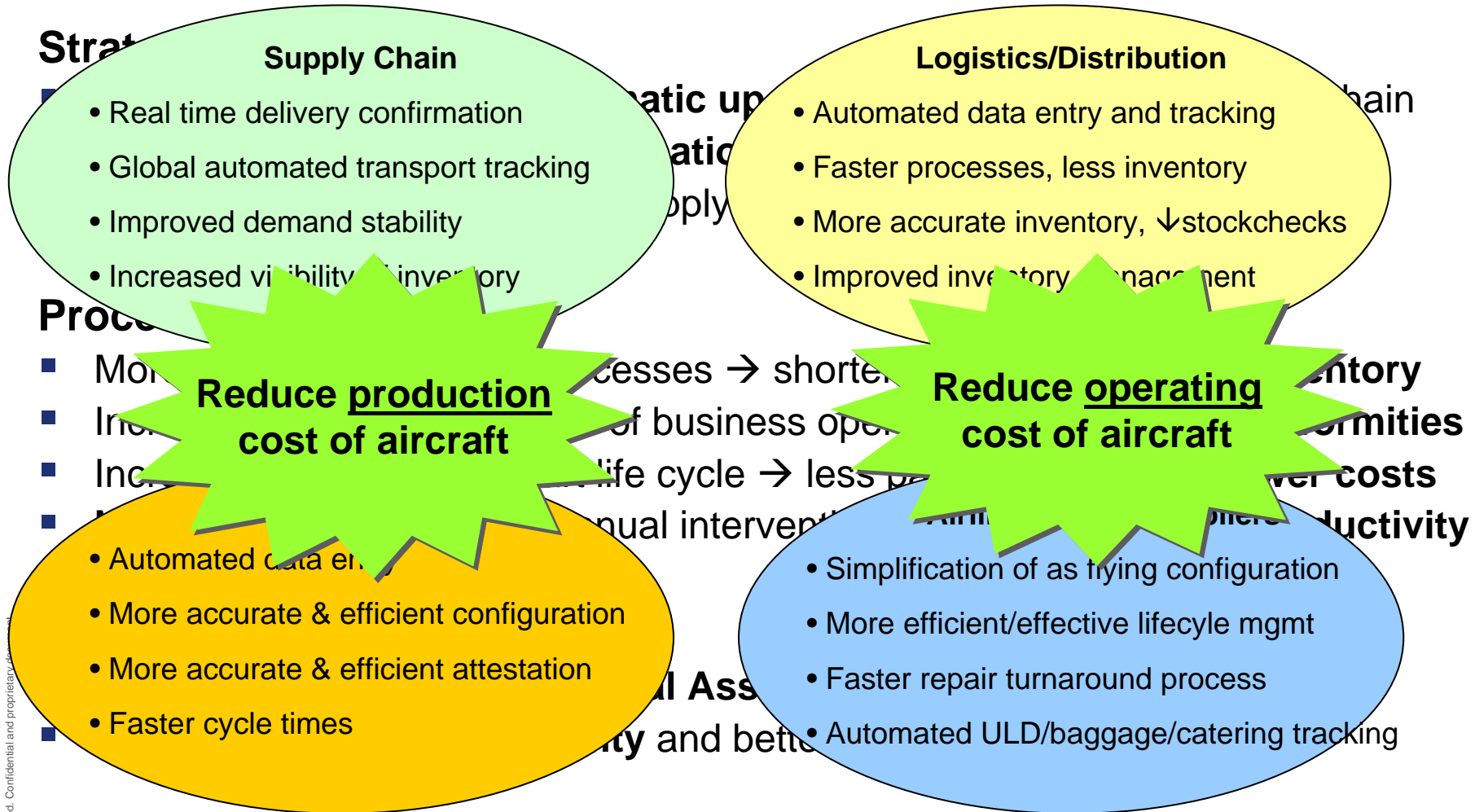...ply...

Proc...

- Mor... ...cesses → shorter... ...ntory
- In... ...of business op... ...ormities
- Inc... ...life cycle → less p... ...ver **costs**
- ...nual interven... ...productivity

Supply Chain
- Real time delivery confirmation
- Global automated transport tracking
- Improved demand stability
- Increased visibility inventory

Logistics/Distribution
- Automated data entry and tracking
- Faster processes, less inventory
- More accurate inventory, ↓stockchecks
- Improved inventory management

Reduce production cost of aircraft

Reduce operating cost of aircraft

- Automated data en...
- More accurate & efficient configuration
- More accurate & efficient attestation
- Faster cycle times

- Simplification of as flying configuration
- More efficient/effective lifecyle mgmt
- Faster repair turnaround process
- Automated ULD/baggage/catering tracking

...l Ass...

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RESULT = Leaner and more competitive business processes

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DIFFERENT TYPES OF RFID
Total Lifecycle Traceability

Value Chain Visibility and Auto-ID Programme					

Non-Flyable		Flyable	

Release 1	Release 2	Release 3

Logistic	Distribution	Manufacture	Assembly	Lifecycle of parts	Cargo

Supply Chain Tracking
(3PL Logistics Centre, Toulouse)

Warehouse Logistics
(Mazeres Logistics Centre, Toulouse)

RFID shipping labels	RFID on Containers	RFID on jigs	RFID on tools	RFID on parts	RFID on assets

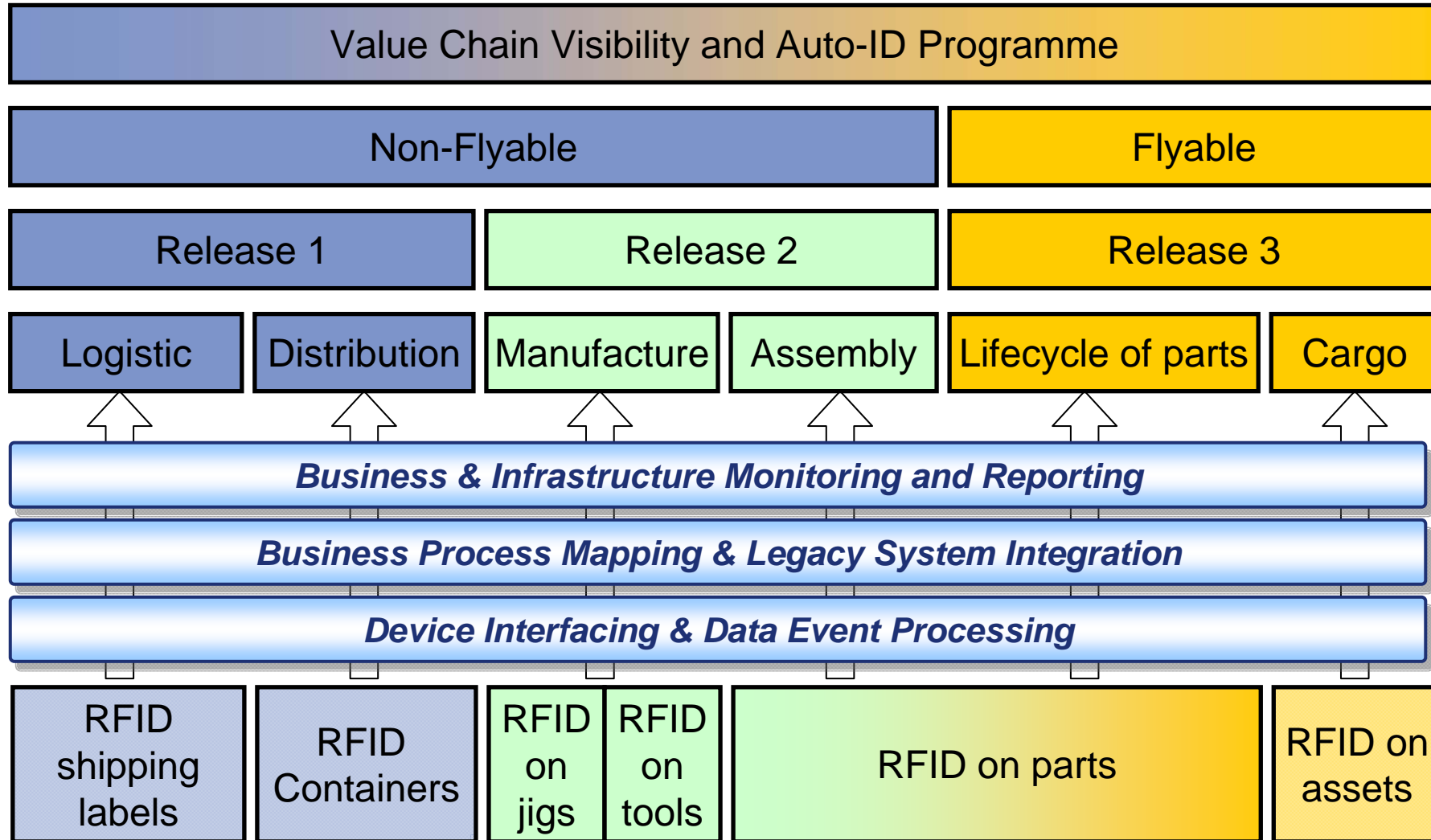| Inventory Management (Mazeres Logistics Centre, Toulouse)	Tool Tracking/Calibration (Filton, UK)	Spares Logistics (Airline #3)

Joint Industry work

There is no one size fits all solution

Different RFID enablers are used for different processes

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DIFFERENT TYPES OF RFID
Integrated into a standard corporate s/w platform

Value Chain Visibility and Auto-ID Programme

Non-Flyable	Flyable

Release 1	Release 2	Release 3

Logistic	Distribution	Manufacture	Assembly	Lifecycle of parts	Cargo

Business & Infrastructure Monitoring and Reporting

Business Process Mapping & Legacy System Integration

Device Interfacing & Data Event Processing

RFID shipping labels	RFID Containers	RFID on jigs	RFID on tools	RFID on parts	RFID on assets

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3PL (Mazeres)

Airbus