

# Breaking Down the Silos

Transforming S1000D workflows through intelligent system integration and automated data flows across aerospace and defence organisations.



# Introducing Your Speaker

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*With over 20 years of hands-on experience in S1000D across the aerospace and defence sectors, my background offers a unique perspective on challenges that remain as relevant today as they were two decades ago.*







# The Problem: Disconnected Systems

In most organisations, the Product Lifecycle Management (PLM) system is treated as the 'single source of truth'.

- Design data
- Change requests (ECRs)
- BOMs.



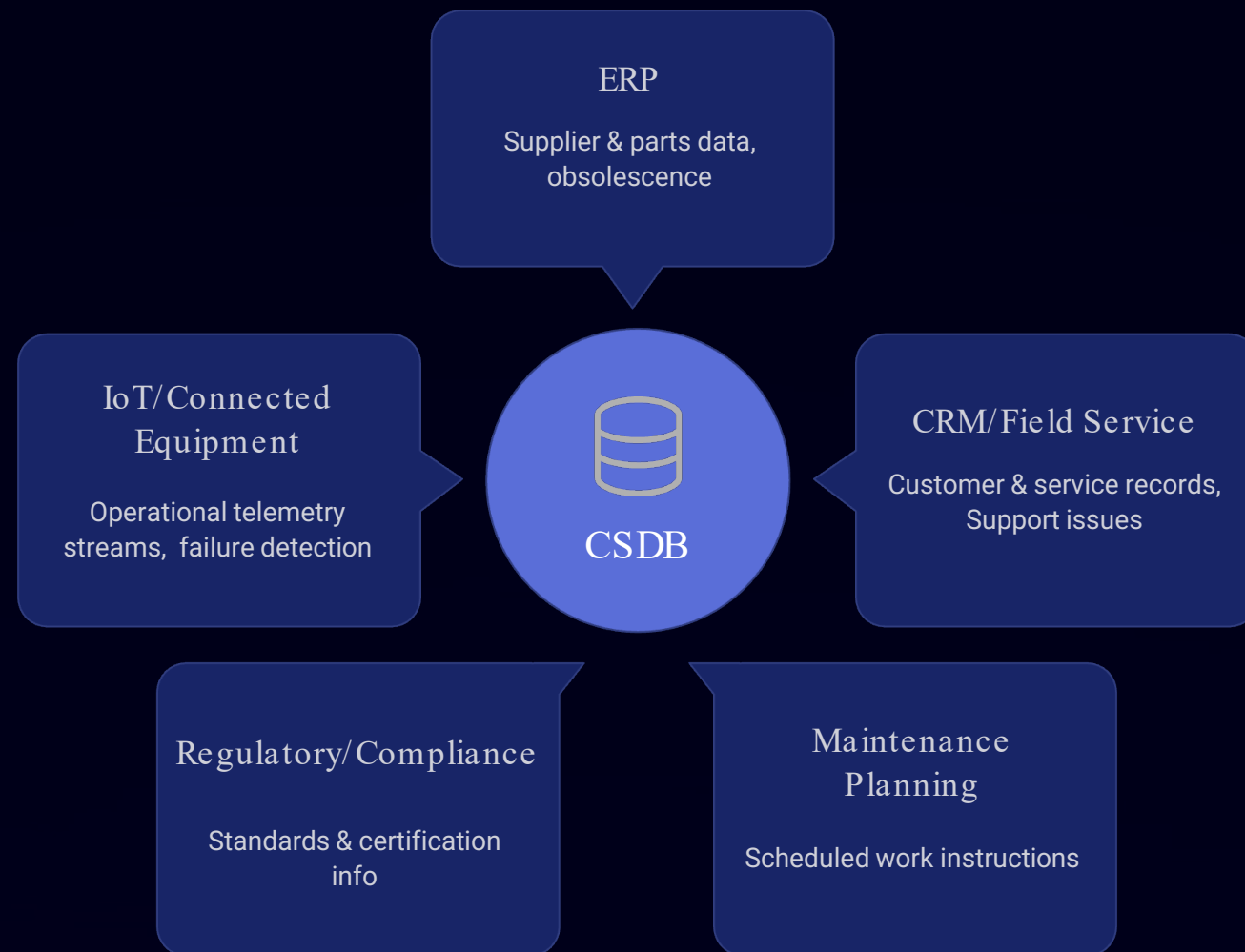
Yet departmental teams remain isolated.

Departmental systems don't communicate effectively, creating:

- Inconsistent data
- Duplicated effort
- Inefficient manual processes
- Delays
- Increased costs
- Outdated or incorrect data.

# Beyond the Primary Source of Truth

Product Lifecycle Management (PLM) systems are conventionally considered the primary source of truth for engineering data, but a wealth of other critical information resides in disparate enterprise systems.



Leveraging these diverse sources could significantly enrich S1000D technical publications and streamline processes.



# Tech Pubs as an Island

## Root Causes of Isolation

- Legacy systems with limited interoperability capabilities
- Vendor-specific implementations with rigid APIs
- Costly custom development for integration points
- Specialised knowledge requirements create operational boundaries
- Generally, technically challenging
- Proprietary data formats (vendor lock-in)
- Different stakeholder priorities

Despite S1000D's structured approach to content, technical documentation teams often operate in isolation from engineering, procurement, customer support and product lifecycle management systems.



# The Integration Desire

*"Can we connect your solution to X or Y system?"*

Companies recognise the **value of connectivity** but struggle to define:

- Exactly what data should flow between systems
- How specific integrations would benefit their operations
- Where S1000D CSDBs can gain value beyond basic parts data integration
- Where to start

The desire exists, but the roadmap remains unclear for most organisations.





# S1000D Data Flow Example

Traditional well-known integrations:

- IPD data creation from upstream parts data
- LSA integration: tasks in the LSAR feed into S1000D maintenance procedures, authored by tech pubs teams

Theoretically, the LSAR can populate the CSDB with tools, spares, warnings, cautions, and procedural subtasks.

⚠ Relies on processes being executed correctly, and data being available at the right time.

Often a one-way street: if an Author edits wrong area of data module, they risk misalignment with the LSAR = Config control nightmare!

So yes, it's proven to work, but also pitfalls that need strict process control.





# Advantages of Integration

## Accuracy ✓

Consistent data across systems ensures technical documentation matches engineering reality

## Efficiency ✓

Automated data flow eliminates duplicate data entry and redundant verification steps

## Speed ✓

Changes propagate instantly through the digital thread, reducing time-to-delivery

## Cost Savings ✓

Reduced manual effort and error correction translates to significant operational savings



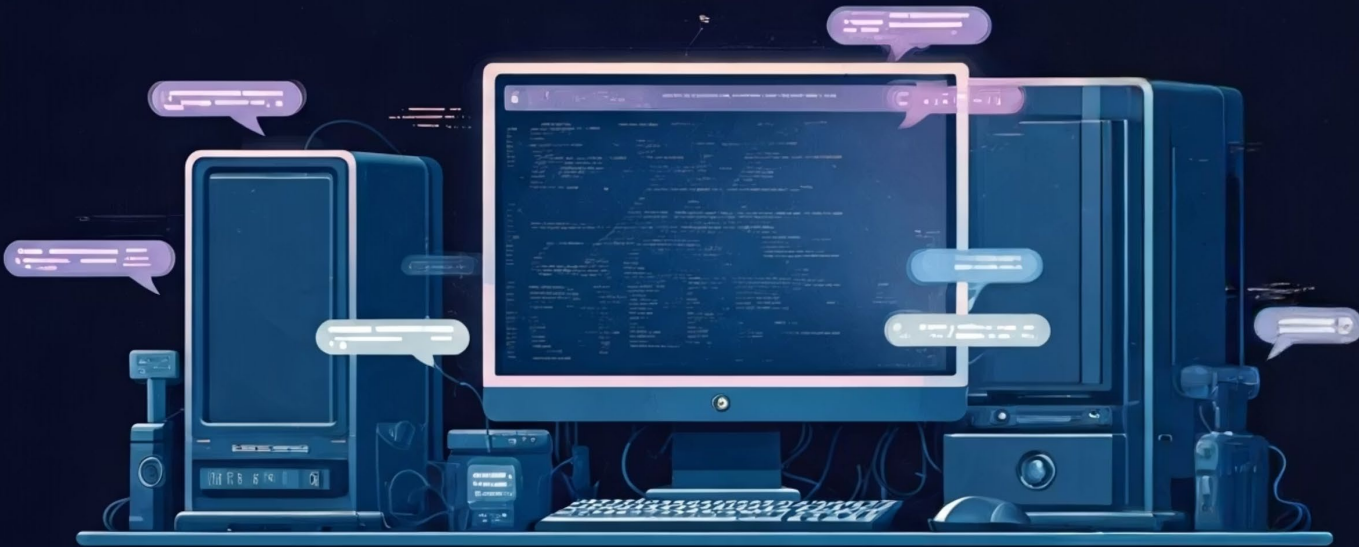
# The Challenge of Integration

These Systems speak different languages.

- Different vendors
- Different APIs
- Different processes
- No common data exchange format
- Expertise required

Out-of-the-box connectivity? Practically impossible.

Or... is it?



# Modern Solutions – Workflow Automation

Outside of aerospace, in the wider software world, solutions like [Zapier](#) or [Make.com](#) let you connect disparate systems in minutes:

- Drag and drop triggers and actions
- Connect apps without coding
- Automate complex extensive workflows

Why can't we do this for critical A&D systems?

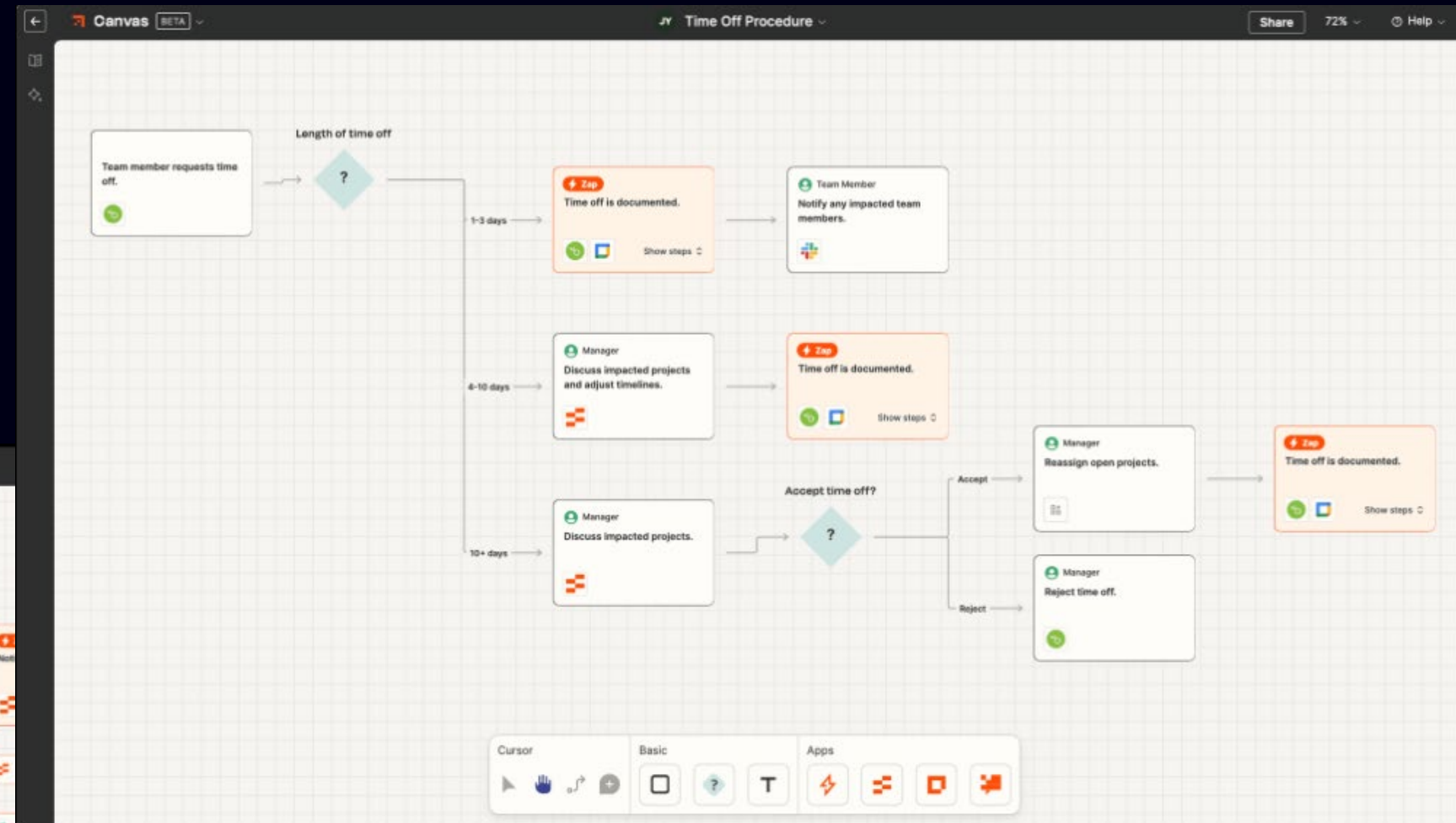
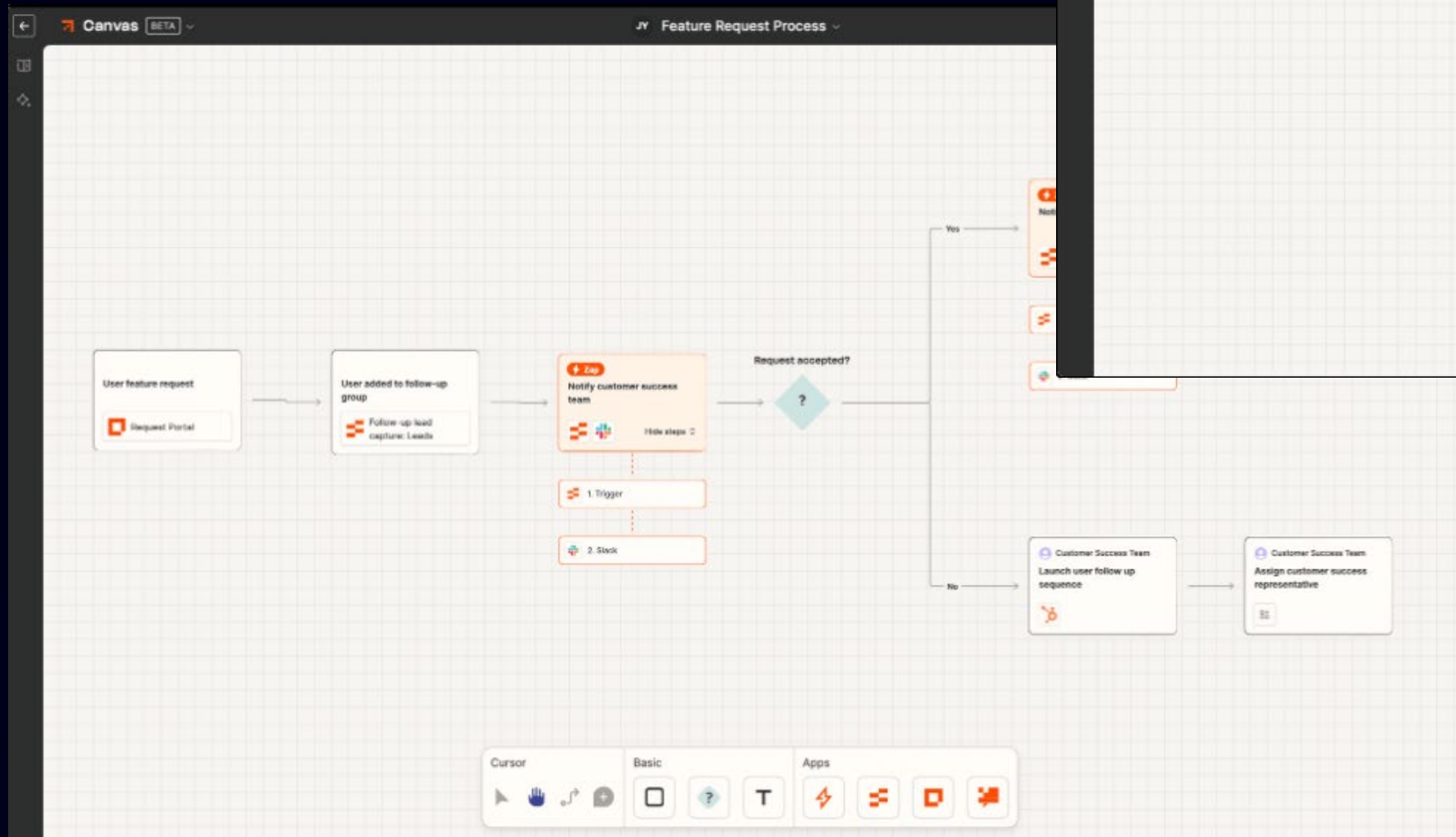




# ‘Drag and Drop’ workflow Canvas

Trigger and Action i.e...

If this → do that



Credit: Zapier.com



# Real-World Examples



## ECRs → CSDB notifications

Use ECR data to trigger CSDB notifications and suggested tech pub impacts

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## Jira → Authoring Tasks

Use Jira tickets to trigger new authoring tasks with prefilled metadata. Or push PDFs back to JIRA as attachments

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## ERP → Provisioning Data

Use ERP supplier data to trigger CSDB actions and notifications against affected DMs and customer publications

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## IoT → Fault Data

Use IoT data to suggest fault isolation updates or maintenance





# MCP and AI: The Next Evolution

With the rise of AI, system integration gets even simpler:

## Model Context Protocol (MCP)

Describe the flow you want in natural language, and AI can **automatically build the workflow**, chaining the necessary API calls as if by magic.

*"I want to get updates when a part changes in PLM, send me an email, and trigger an up-issue of DMC-123, then update the DM with the latest parts list..."*

## Security Preserved

With MCP, sensitive data never leaves your environment — the AI only sees metadata needed to build the workflow. Local LLM options are also available.

# A Modular Integration Framework



## Source Systems

PLM, ERP, IPS/ILS, CRM, and other enterprise data repositories that contain authoritative content



## Integration Layer

Flexible, “no code” tool that translates data between systems without rigid coupling



## S1000D Environment

CSDB tool that can consume and contextualise enterprise data for any number of functions

Rather than building point-to-point integrations, a modular approach allows organisations to adapt as systems change and evolve over time.







The future of S1000D integration is here—simple, flexible, and immediately achievable.

*"Connecting your documentation workflows to the live data that already exists across your organization makes sense."*

### The Reality

Silos persist despite modern data tools and S-series standardisation efforts

### The Solution

Workflow automation tools and MCP make complex A&D system connectivity practical and efficient

### The Opportunity

Digital thread becomes less aspirational, more immediately achievable

**The tools exist. The possibilities are endless. The time is now.**