



Stop Wasting Years on Payload Integrations

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from Spacebackend LU SaRL



LUXEMBOURG
SPACE AGENCY

esric

technoport®



About

The Luxembourgish

Company revolutionizing system
integration in Aerospace & Defence
Industry



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Company & Expertise

50 Years

Combined experience
in Aerospace and
Software Engineering
in IAI, Google, SpaceIL
and iSpace

2022

Founded with a
mission to increase
payload integrability
and accessibility

LU/US

Incorporated as
US-based HQ with a
Luxembourgish entity.
R&D and IP residence
in Luxembourg

Product & Commercial

8 → 25

Team members with a
growth plan to 25
employees in the
following years

ESA

Funding and
supporting the
company alongside
US-based VC's

MVP

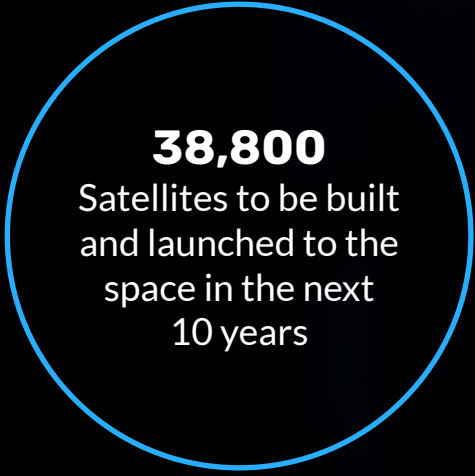
Tested and lab
validated first product
version released.

ISO9001

In the process toward
receiving ISO 9001
within 2025

Customers

Serving our first Prime & SME customers



38,800

Satellites to be built
and launched to the
space in the next
10 years

The Context

Satellite Integrators and Operators

Assembling and launching public and private satellites with a dozens of components, sub-systems, and payloads integrated and hosted for a various applications

-
- Earth Observation
 - Communications
 - Intelligence & Surveillance
 - In-Orbit Servicing
 - Space Situational Awareness
 - In-Orbit Manufacturing
 - Microgravity Experiments
 - IOV / IOD

Lack of standardization

In Software Interfaces complicates the integration of various payloads and sub-systems into satellite platforms



Integrability

Compatibility and integration challenges between different TM/TC data interfaces in-ground and on-board segments



Accessibility

Payload owners forced to use emails and outdated protocols for operations due to the absence of direct user-centric accessibility



Scalability

Payload owners developing custom C&DH software, ICD documentation, and Ground segment dashboards for every payload

The High Costs

And Efforts of Custom Software Development
for Payload Assembly and Integration into
Satellites Platforms

1

EUR 150K - 250K

6 - 9 Months

C&DH Software for Single
Payload Controller

2

> EUR 100K

4 - 6 Months

Implementing and testing ICD
Software interfaces to integrate
single payload into satellite.

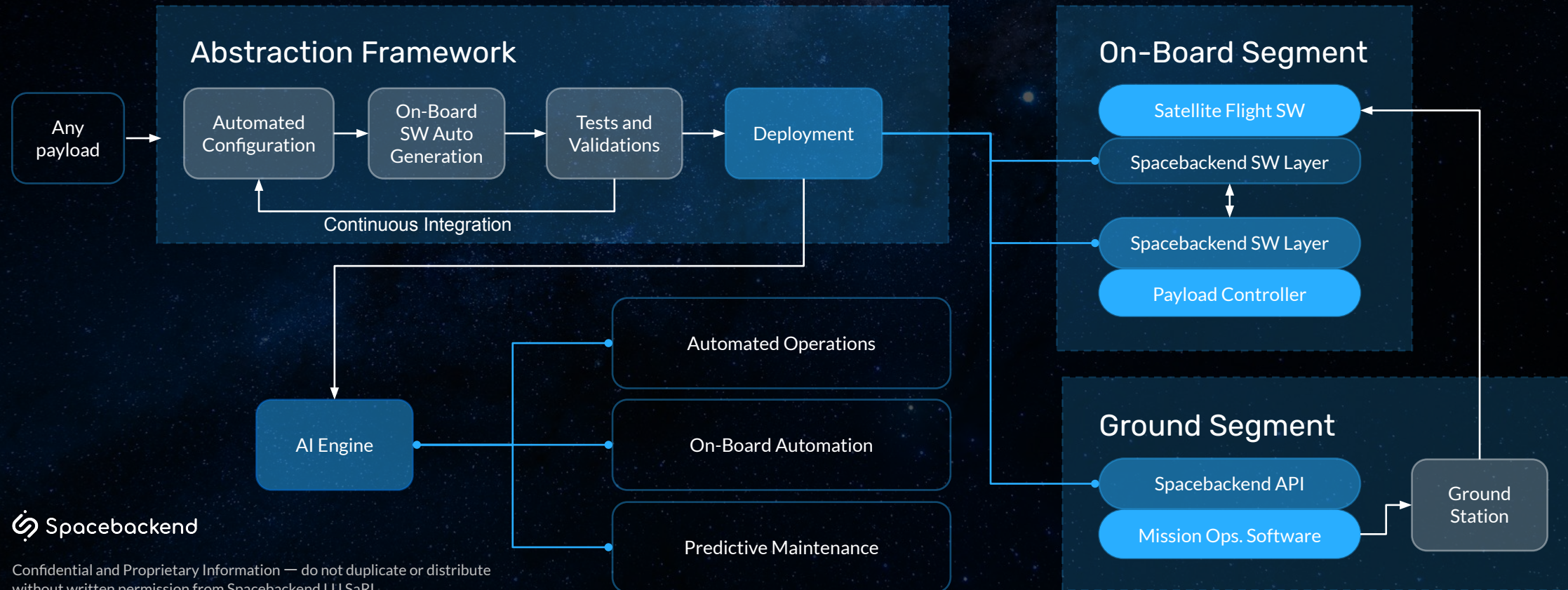
3

> EUR 500K

2,5 Years

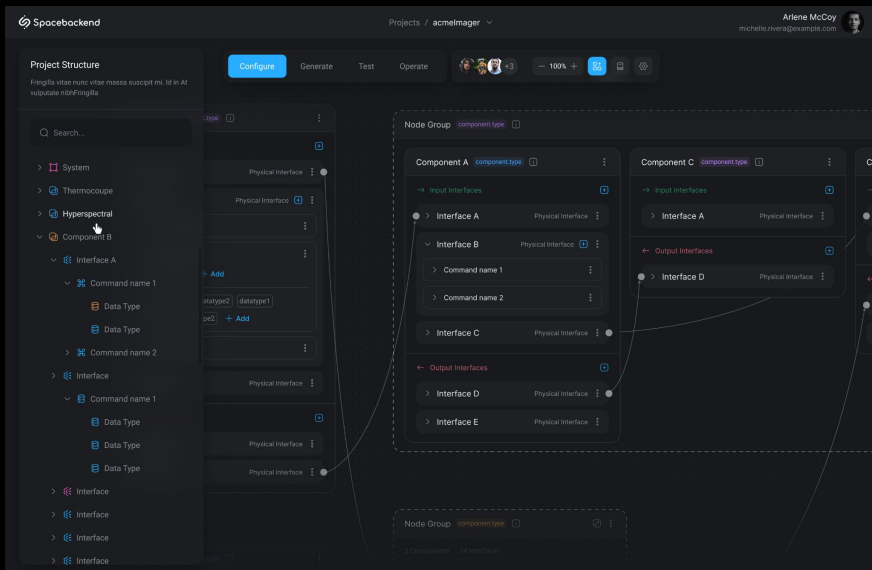
Average satellite
hosting 5 payloads

AI-driven Digital-Twin Framework for modular integration of diverse payloads and platforms, bypassing various standards and interfaces to enable plug-and-play operations and on-board intelligence



The Product

End-to-End Cloud Platform for Satellite and Payload companies, streamlining the process of Payload assembly, integrations, automation and remote operations across LEO, Moon, and beyond



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1

Configure

Drag-and-drop design and configuration of platforms and payloads to auto generate onboard and ground segment software

2

Integrate

Automatically generate on-board and ground segment software for seamless payload integration and plug-and-play functionality.

3

Test

Run automated tests on integrated payloads to ensure end-to-end operation reliability and mission efficiency.

4

Operate

Integrate with third-party mission operations via API or use our software for multi-tenant operations, monitoring, and analytics.

SpaceBE
Cloud

From ICD to Space Operations

Automating the entire payload integration lifecycle to address the most critical issues for spacecraft and payload companies

ICD Automation

AI-based ICD conversion to abstraction model and follow-up auto-generation of C&DH software

Drag-and-Drop ICD

Easily configure Software interfaces of different payload components by using Drag-and-Drop tools

Test automation

Automated virtual tests for validating the auto generated SW Input and Output interfaces to communicate with Payload

Continuous Integration

Managing Multiple ICD and Payload revisions and automating the reconfiguration, test and deployment process

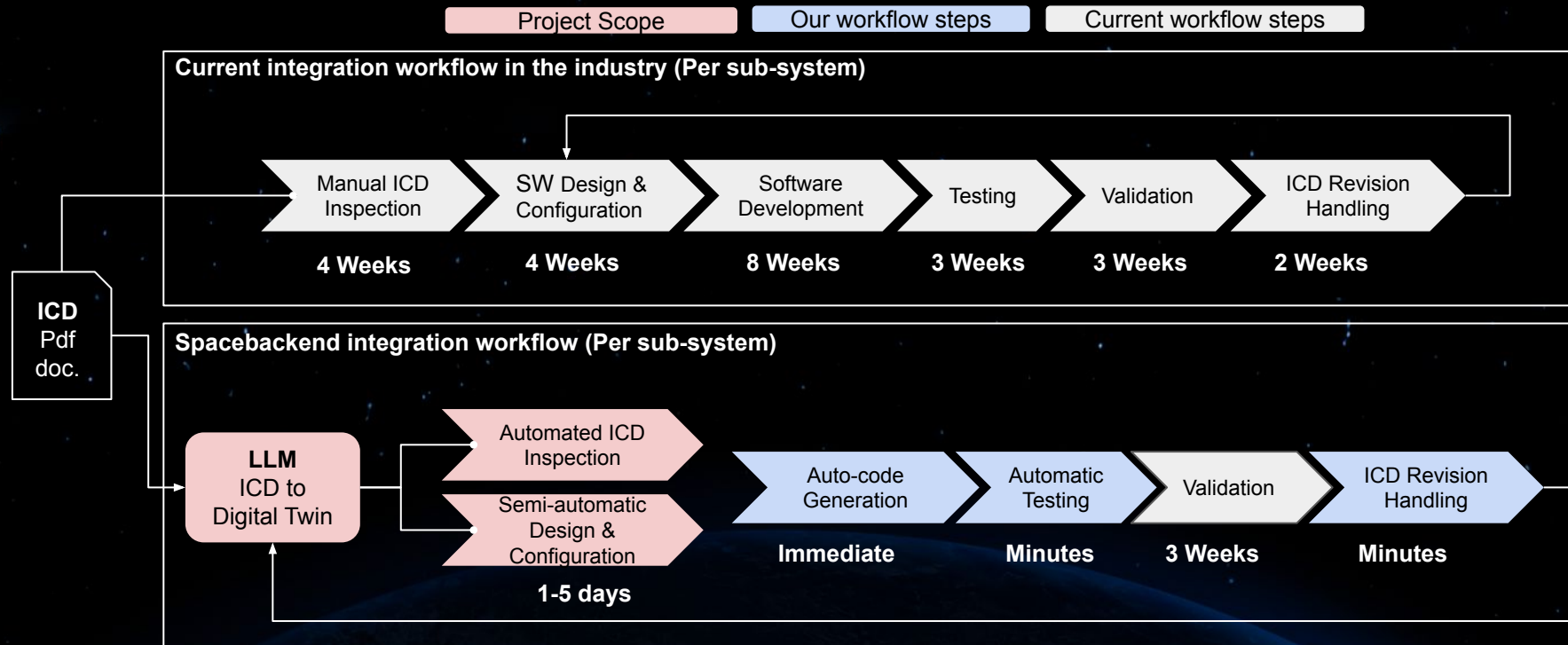
Custom Dashboards

Getting automatically generated TM/TC Dashboards for every single Payload

Multi-tenant operations

Getting customized ground segment operational instance on the cloud for supporting multiple operators and direct access.

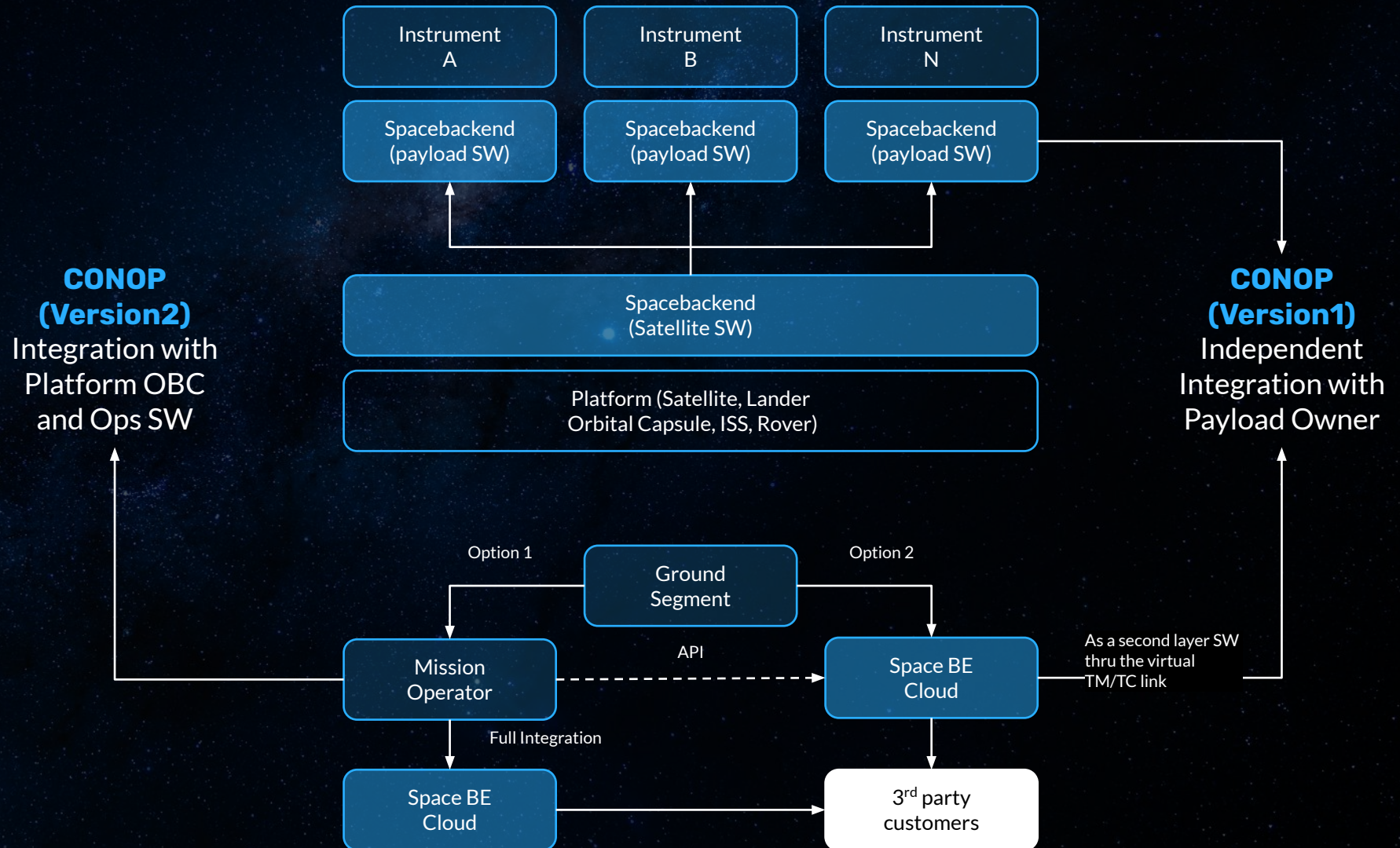
Current VS New Integration Workflow



Flexible Integration

Use Cases

- Using Spacebackend Sync Layer for Integrating the solution directly with Satellite Flight Software. Generic Payload Driver can be physically integrated into Payload controller Unit or deployed as a Virtual Driver into Spacebackend Synch Layer
- Integrating the Generic Payload Driver and ground segment API independently from Satellite. Using



Commitment

To deliver at least 50% cheaper integration of data interfaces



> EUR 500K

Saving per satellite for
Integrating multiple payloads

> 50%

Of time Reduction
on integrating data Interfaces

up to 75%

Cost Reduction
on Payload Integrations

> 20%

Software Qualification
Effort Reduced

Custom TM/TC

Dashboards for payload
operations and monitoring

Integration & Brokerage

End-to-End Payload Integration and Brokerage
Support for Mission Critical Systems

Payload Management

Contractual, Timelines, Coordination
management of multiple payloads

Interfaces Integration

Integrating, testing, and validating
HW & SW interfaces for multiple
payloads

Rapid Design & Simulation

Of ICD Software Interfaces in order
to test and validate the TM/TC data
streams

TM/TC Dashboards

Automatically generated dashboards
and API to deploy customized Payload
Operations as a second layer solution

Contact us

Thank you!

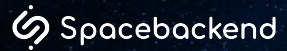


contact@spacebackend.com

www.spacebackend.com

Spain | Luxembourg

+34613139295



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