Modernizing Embedded Software Design, Test & Validation

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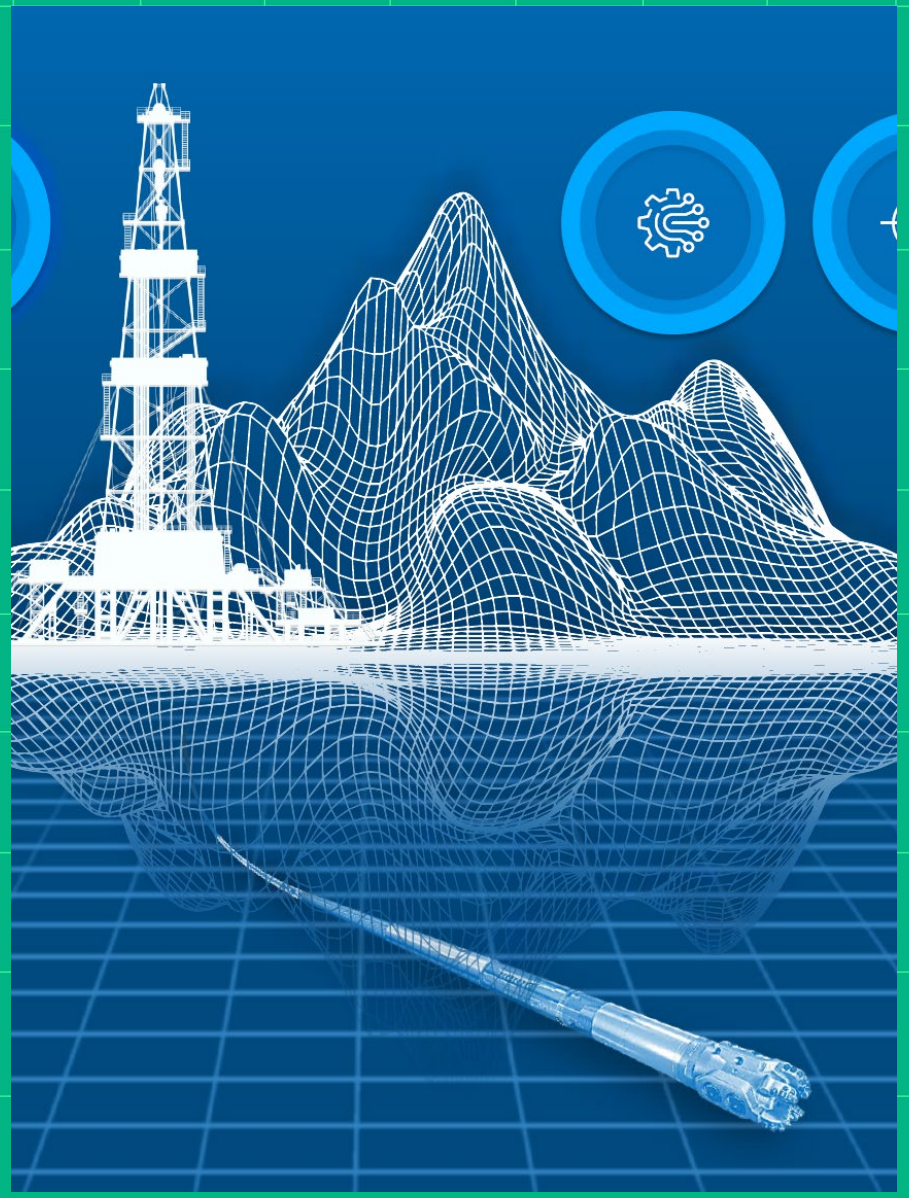
Luc Argentier

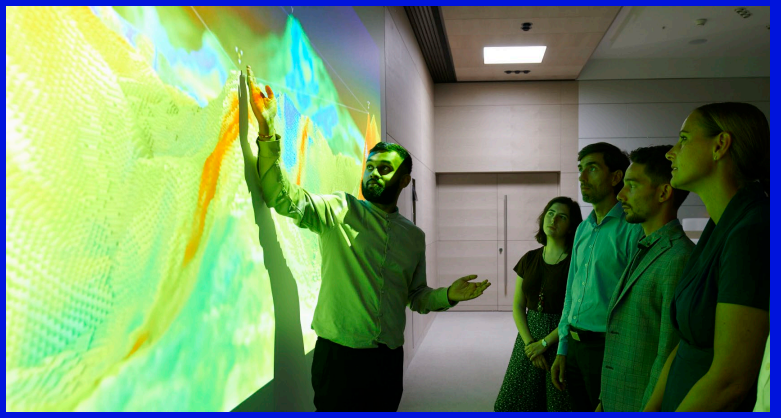


What we do

Decarbonizing industry
Working together to abate emissions

Innovating in oil and gas
Improving performance
in the oil and gas industry

Scaling new energy systems
Accelerating the transition
to clean energy



Delivering digital at scale
Accelerating time to value

SLB Drilling

Safety

High Temp

High Pressure

Innovation

SLB Business Context

Market Variability

Product Complexity

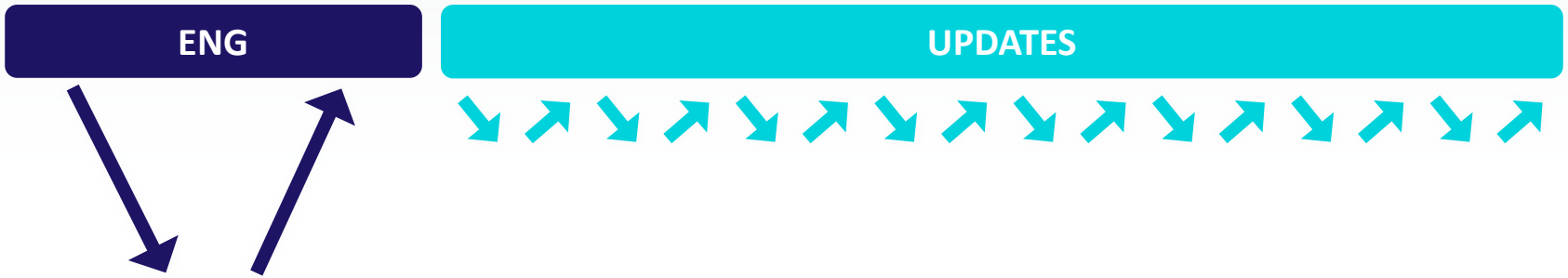
Time to Market

SLB Business Context

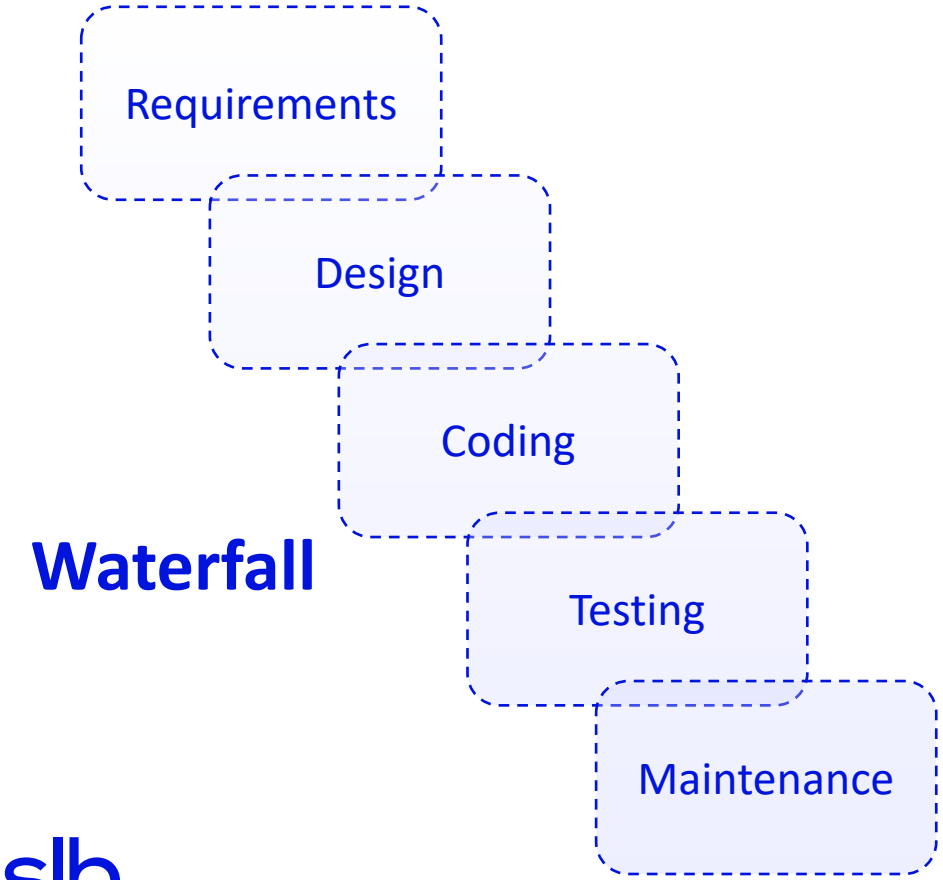
Market Variability

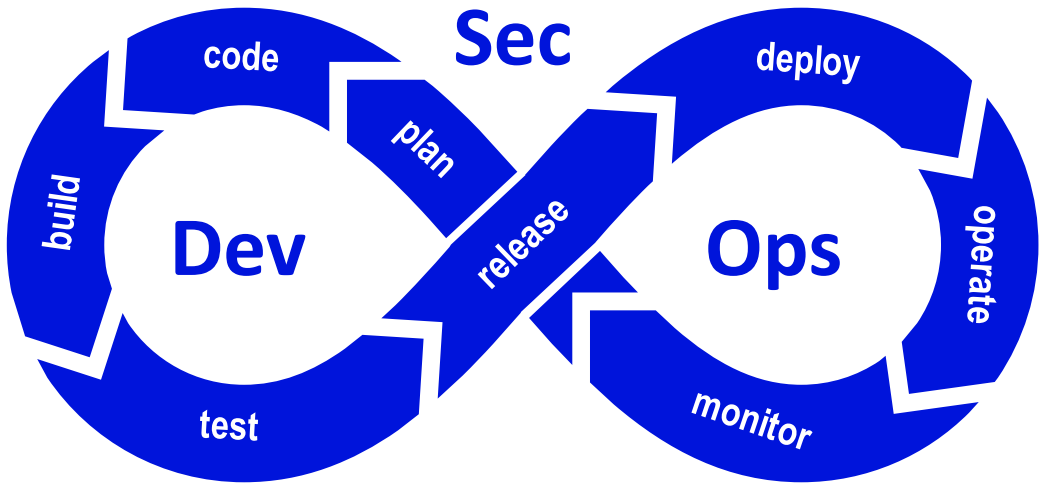
Product Complexity

Time to Market

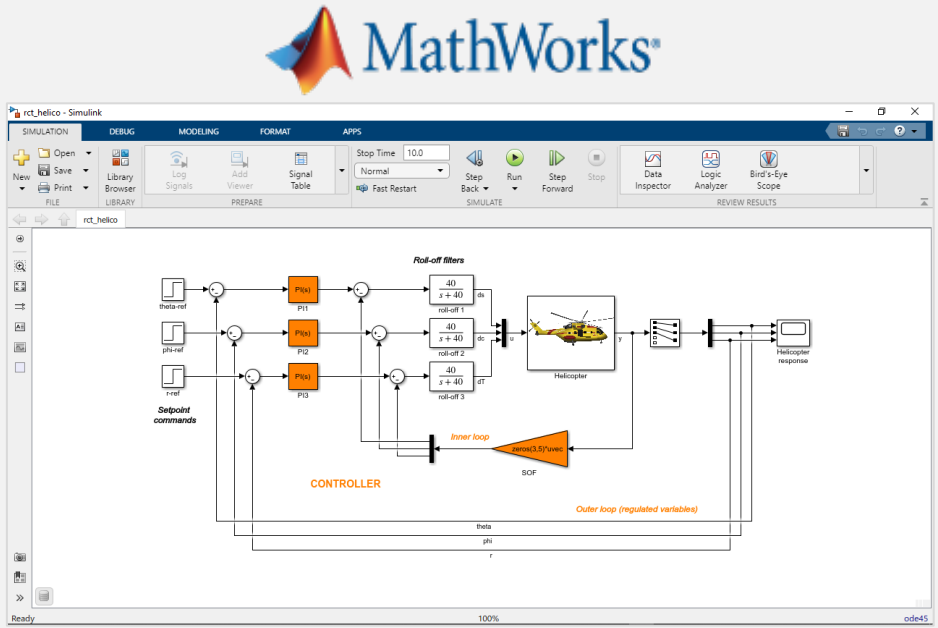


Modernizing Our Processes

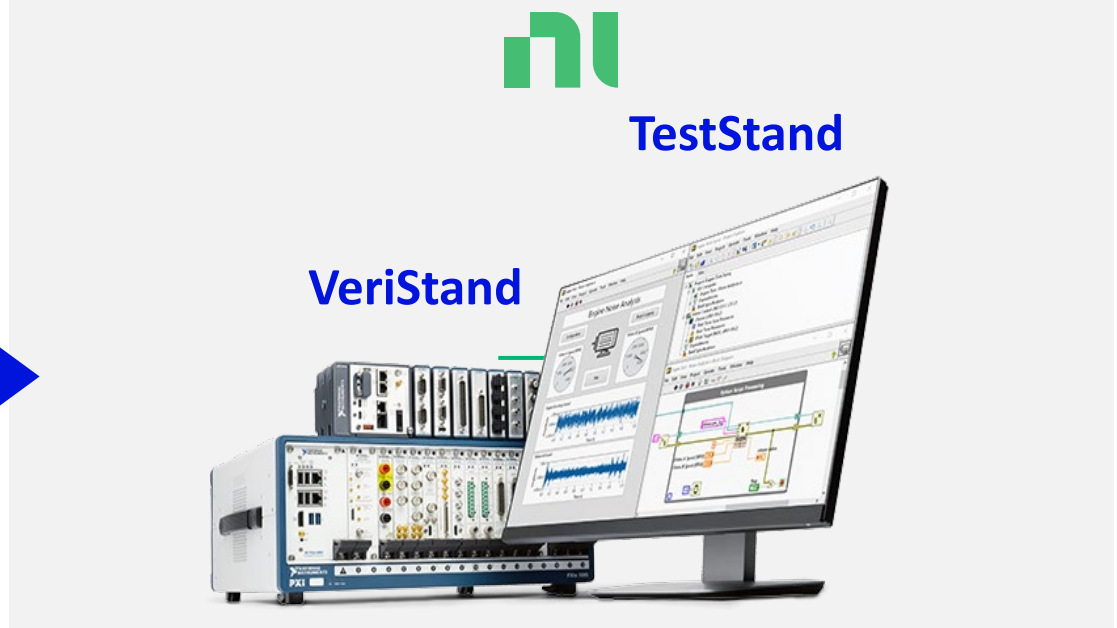




Embedded Software Modernization Infrastructure

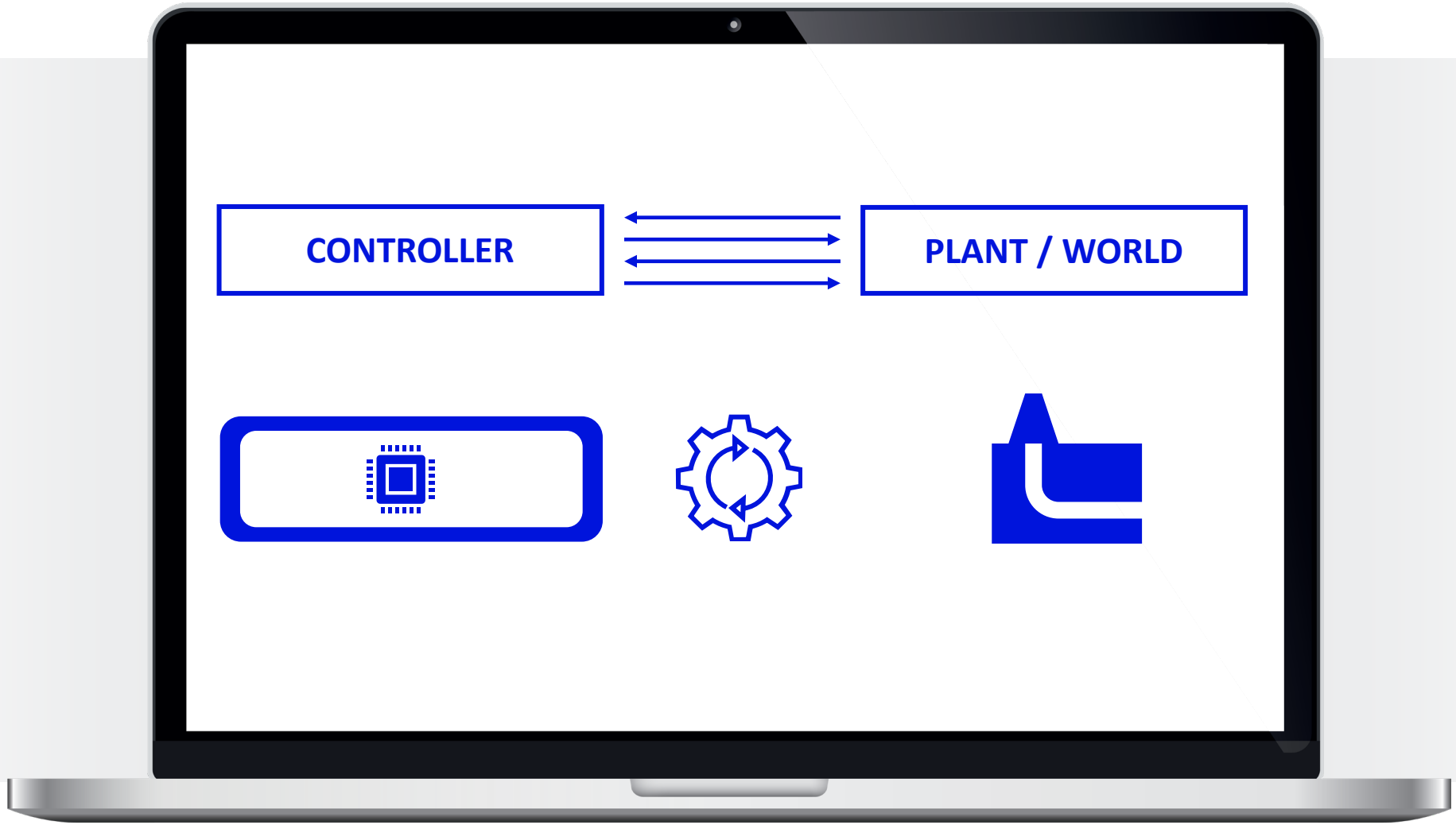


Simulink

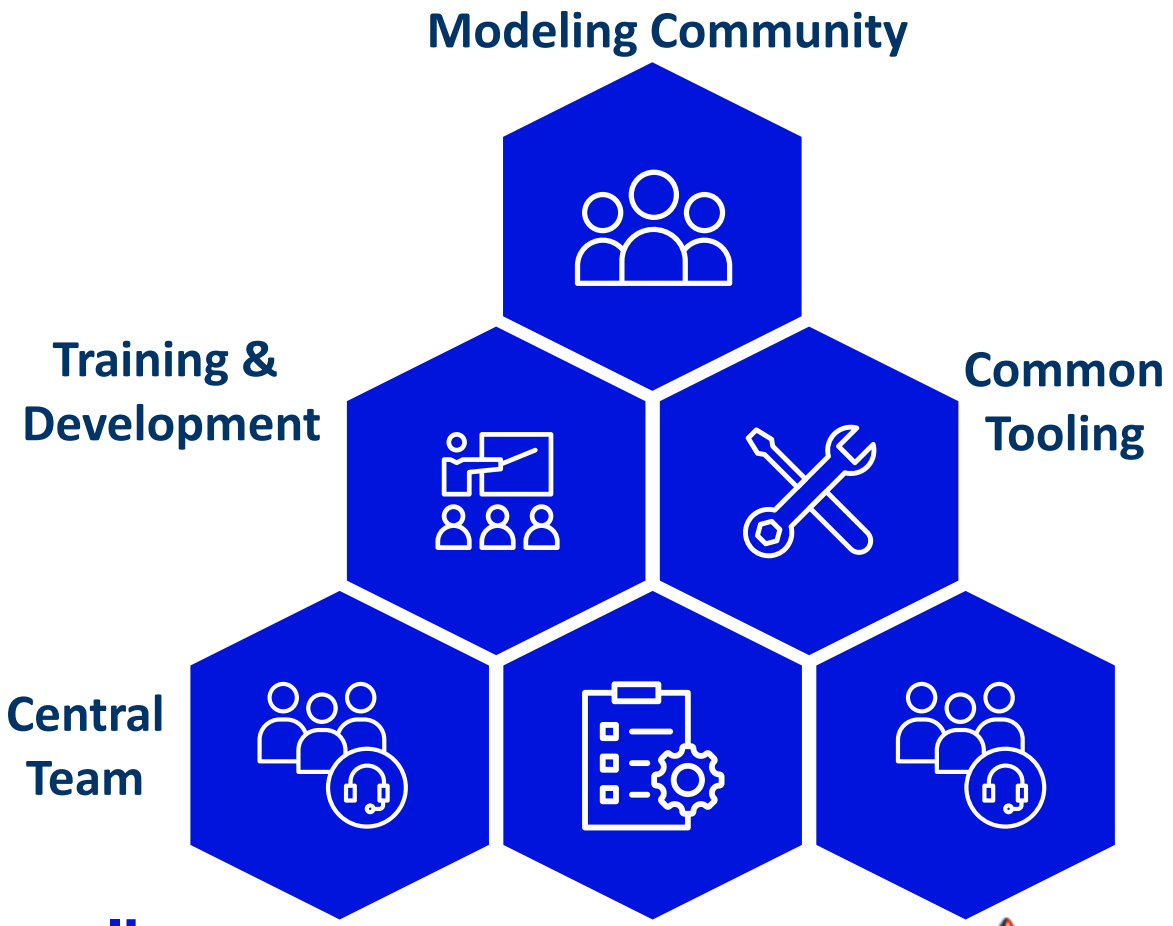


Standardized Test Infrastructure

Behavioral Modelling



XiL Modeling

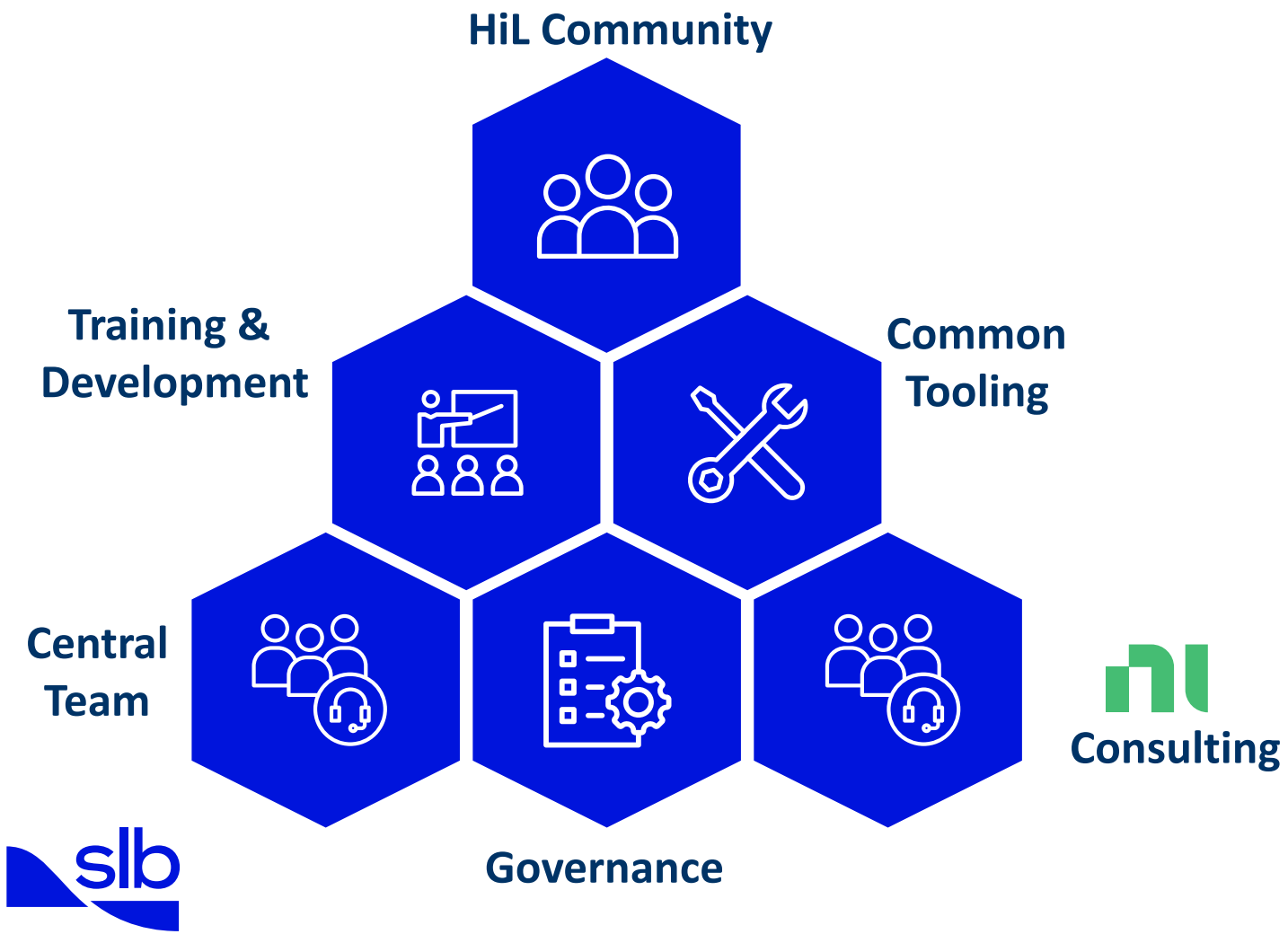


Central Library

slb

MathWorks | Consulting Services

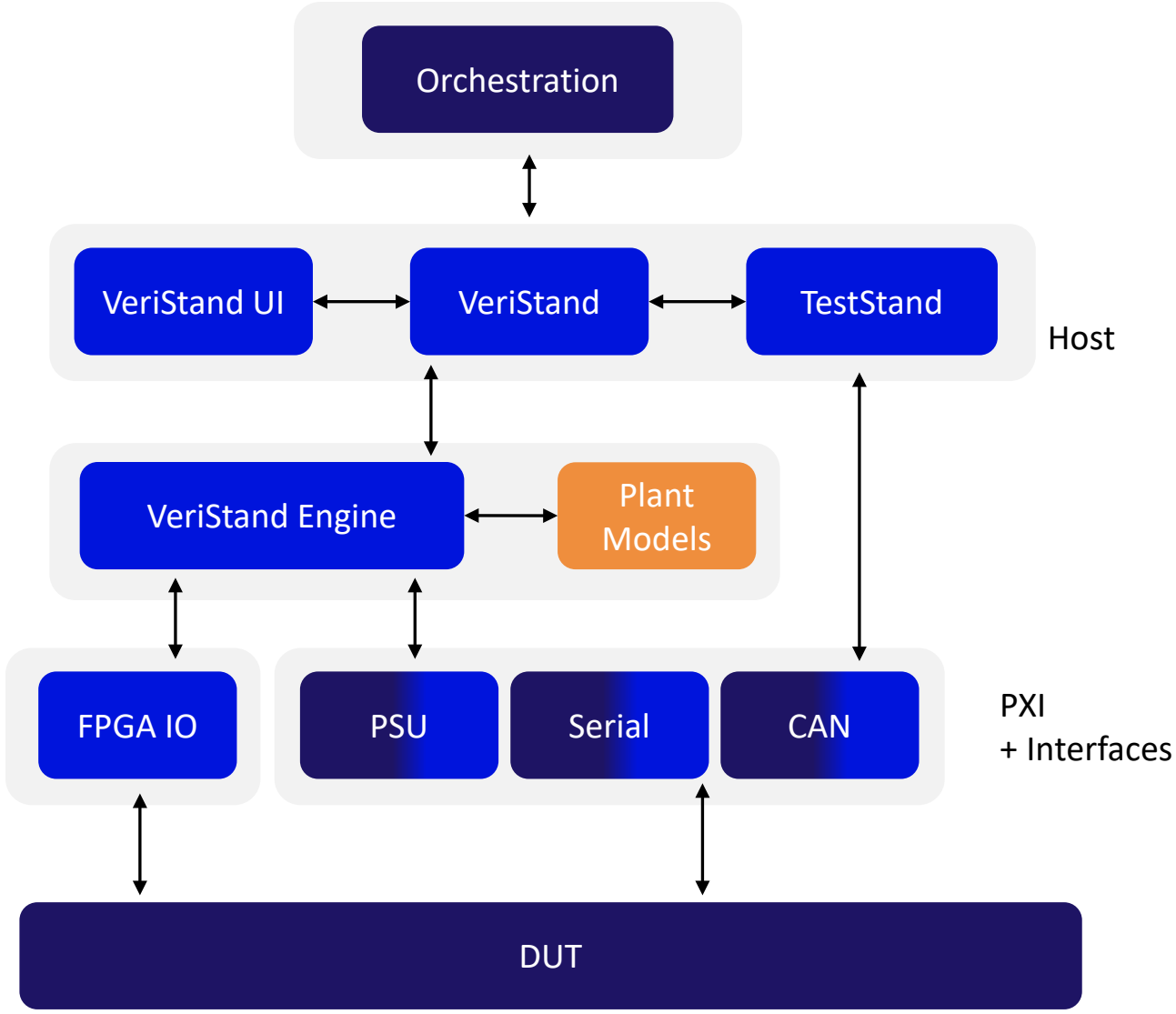
Modernizing HiL



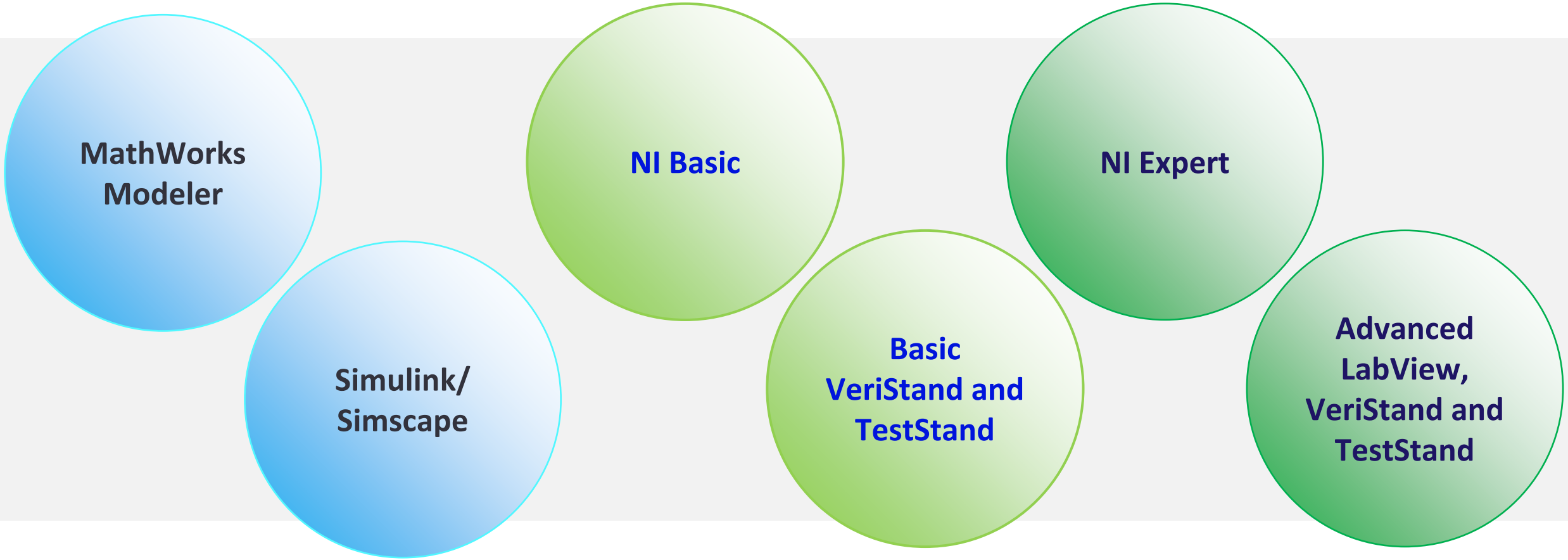
Common Architecture

Standardized HiL Architecture

- **PXI with Linux RT**
- **VeriStand**
- **TestStand**



Training…
For Re-use



Example – PowerDrive, Rotary Steering Tool

Existing Fleet

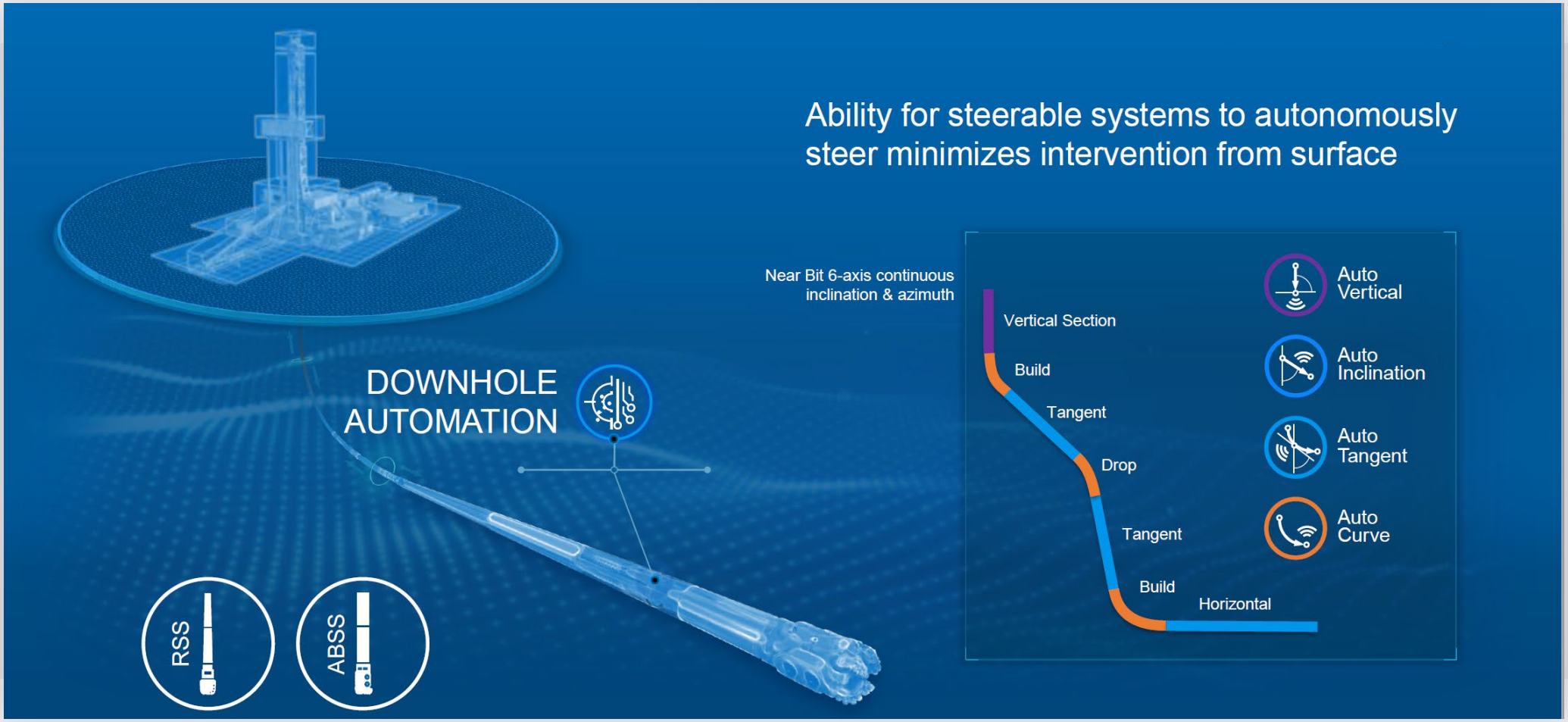
- Rapid response
- Prevent failures in operation

New Projects

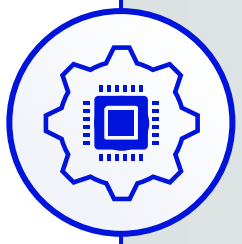
- Left shift testing
- Enable innovation
- Increase business confidence

PowerDrive Orbit RSS

Autonomous Drilling

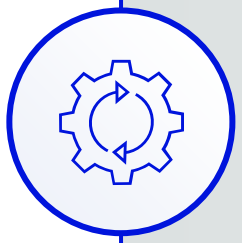


Conclusions



Adoption of Continuous Integration with automated testing

Reducing release cycle duration through SecDevOps and adoption of XiL



Standardization of tools, best practices and knowledge is key

Creating a community around modeling and XiL implementation with the support of a central team

Thank you