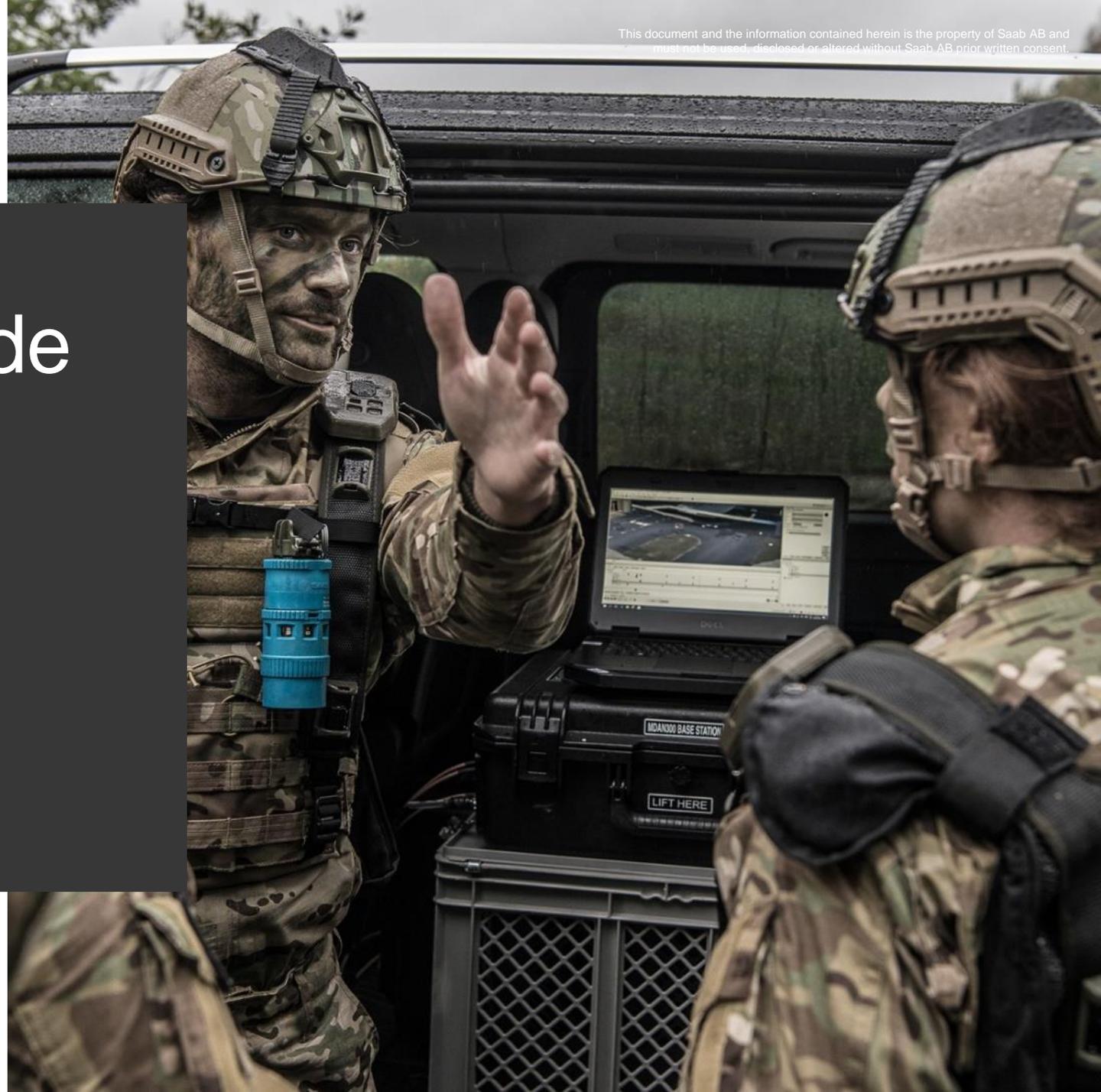


Kunskapsbyggande för framgångsrik systemutveckling

Stefan Wärn, 20 Apr 2023



Business Unit Training & Simulation

The frontline of modern training



HQ in Huskvarna Sweden

~900 employees whereof

~500 outside of Sweden

Global presence

- Customers
- Operations

Training & Simulation Operational Sites



Upcoming Training & Simulation Sites



USMC

29 Palms, CA

CPEN, CA

Kanehoe Bay, H

C Lejeune, NC

Kenya Army CTC
School of Infantry

Our core capabilities

Realism
Scalability
Deployability
Standardization
Interoperability



True
Confidence

Live
training



Virtual
training



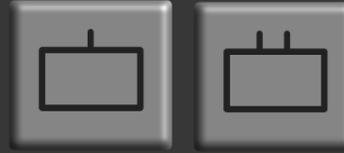
Live fire
training



Training
services



Live Training System



Simulators



ExCon

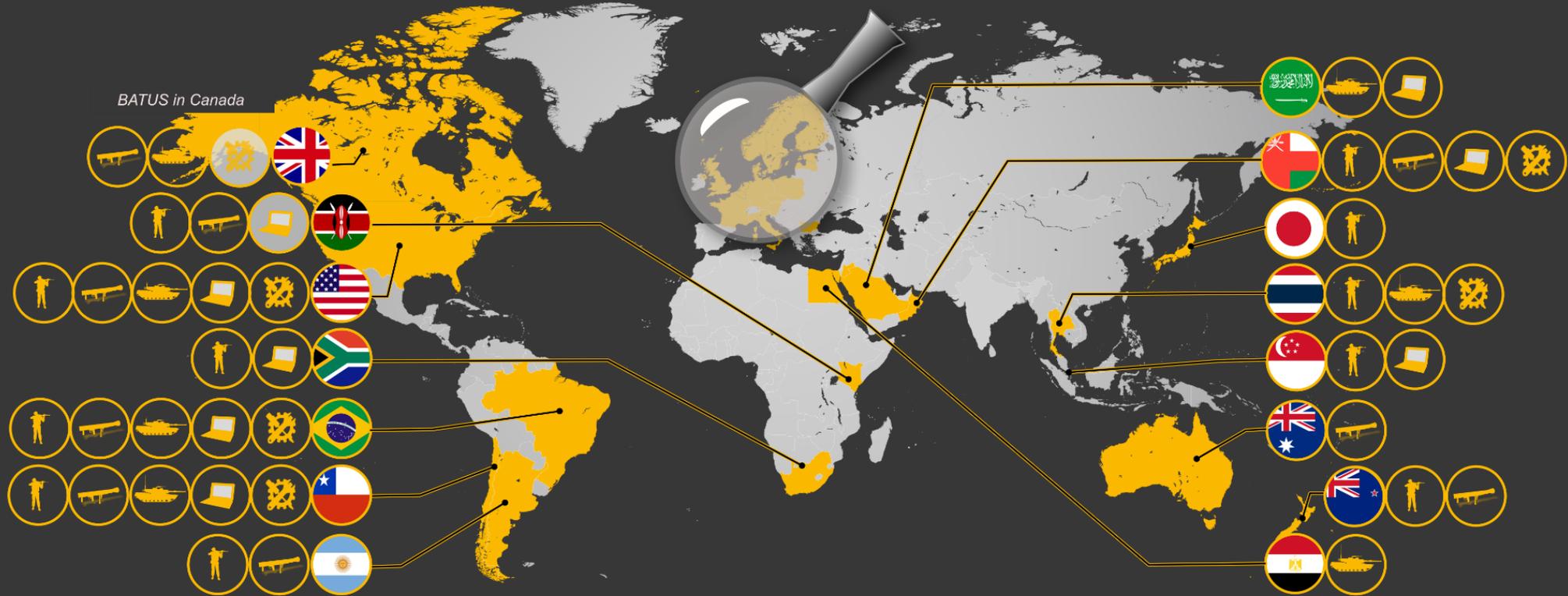


Communication



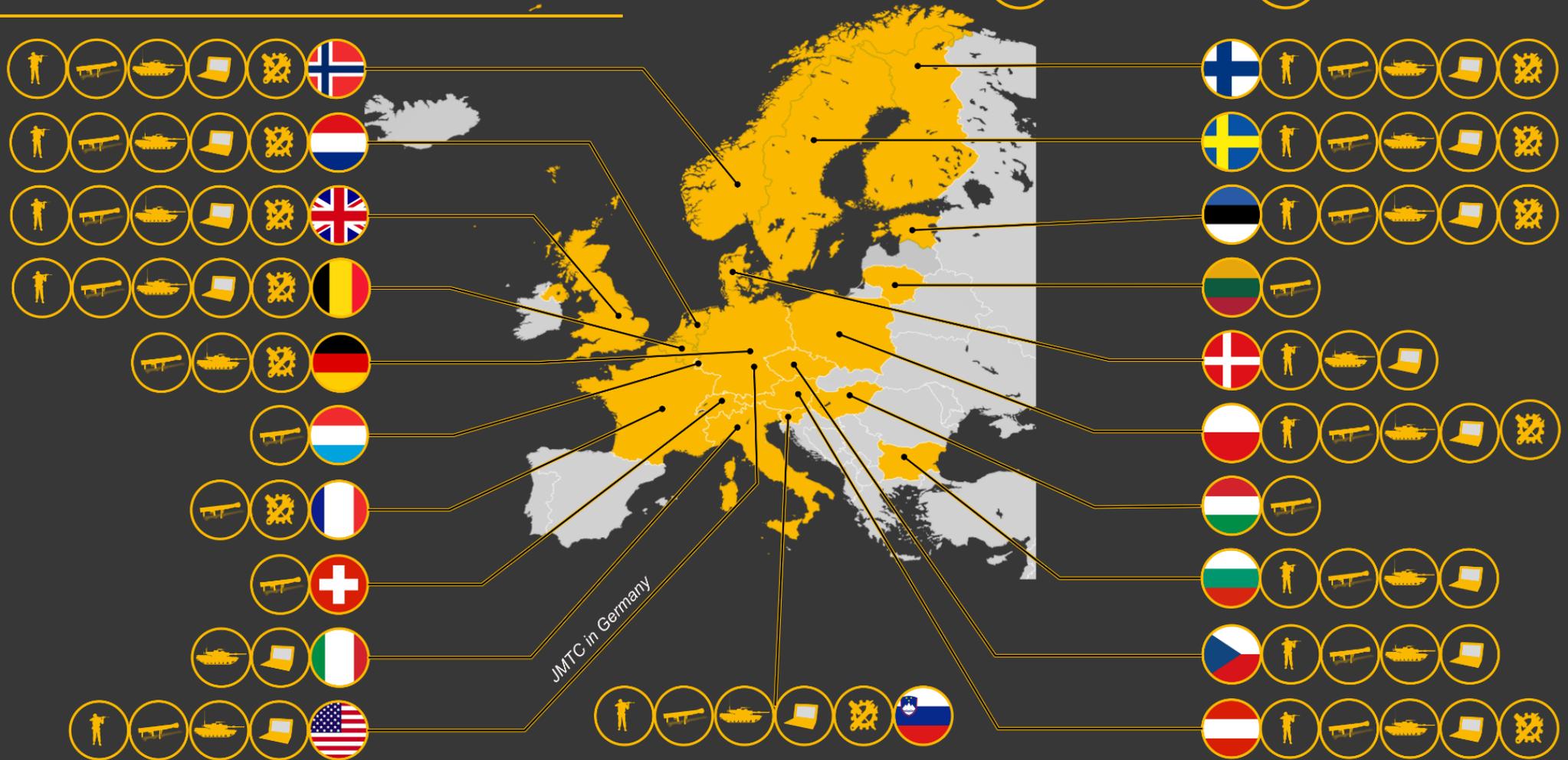
Saab Footprint

- Infantry Training
- Vehicle Simulators
- Support
- Support weapons
- WinExcon



Saab Footprint

- Infantry Training
- Vehicle Simulators
- Support
- Support weapons
- WinExcon



Saab provides Experiential Learning

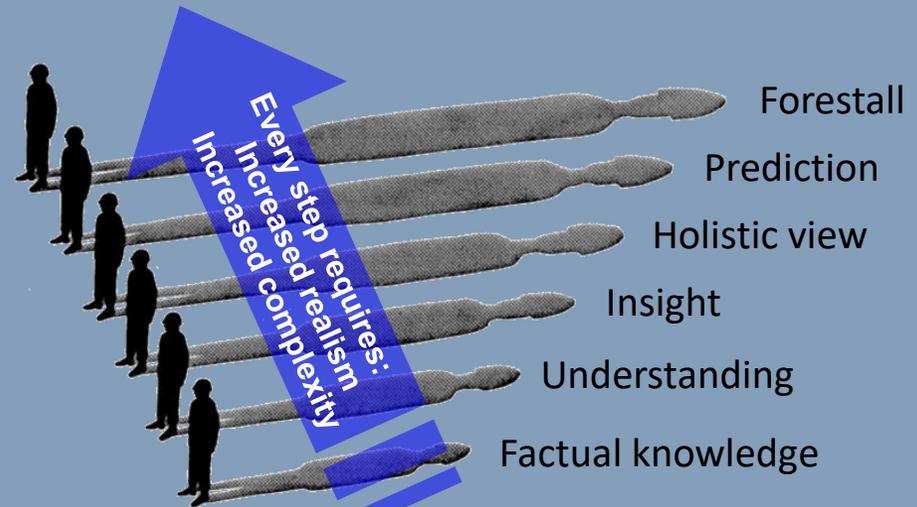


Learning – Adapting to a new environment

Decision making – Builds on accumulated experience

Experience – From rapid and correct feedback

Military doctrine development



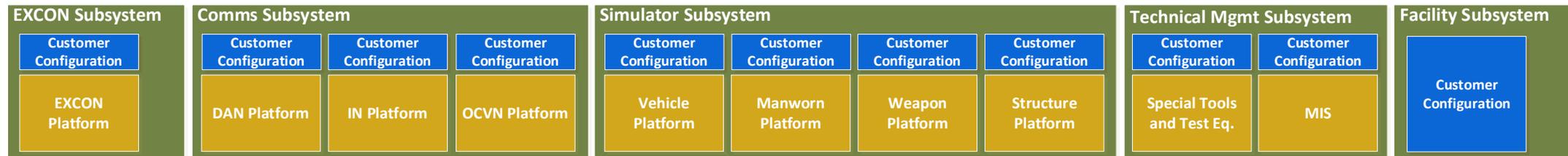
The various levels of experience

System vs Product Development

SYSTEM

Technical System

SUBSYSTEM



MODULES/PRODUCT



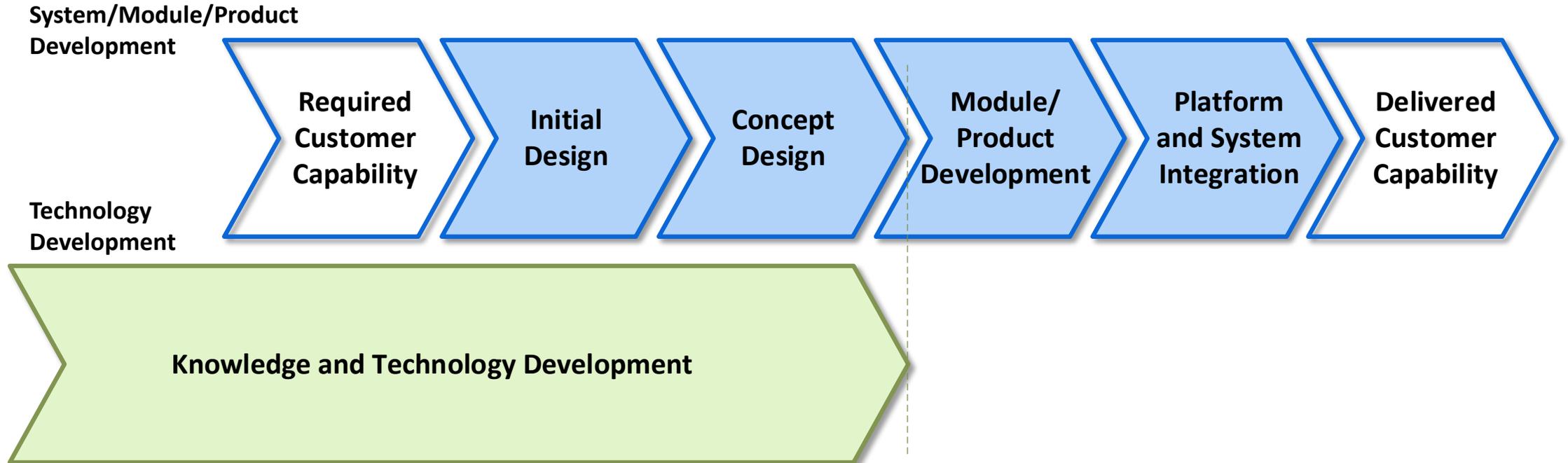
New **Customer Capability** documented with combination of high level requirements and use-cases.

Systems Engineering activities:

1. New System capability => System interfaces, Subsystems and Platform functions.
2. New Platform function => Platform interfaces and Module/Product functions.
3. Module/Product function development.

Performing successful System Engineering activities is based upon **knowledge** and **experience**.

Successful System Development

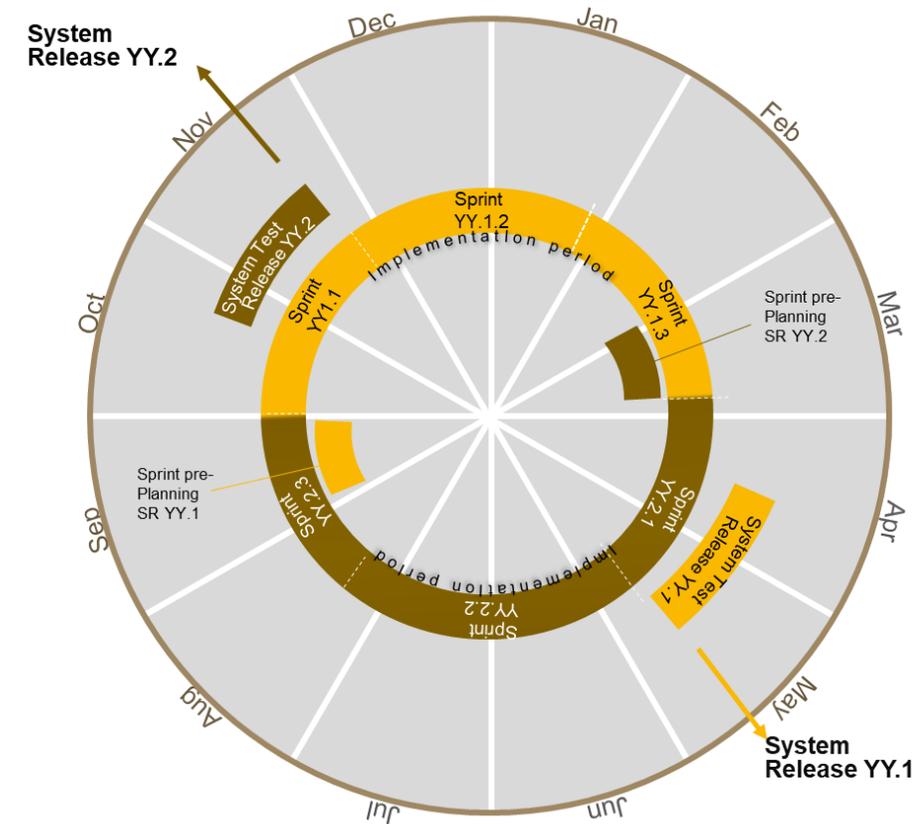


Success factors:

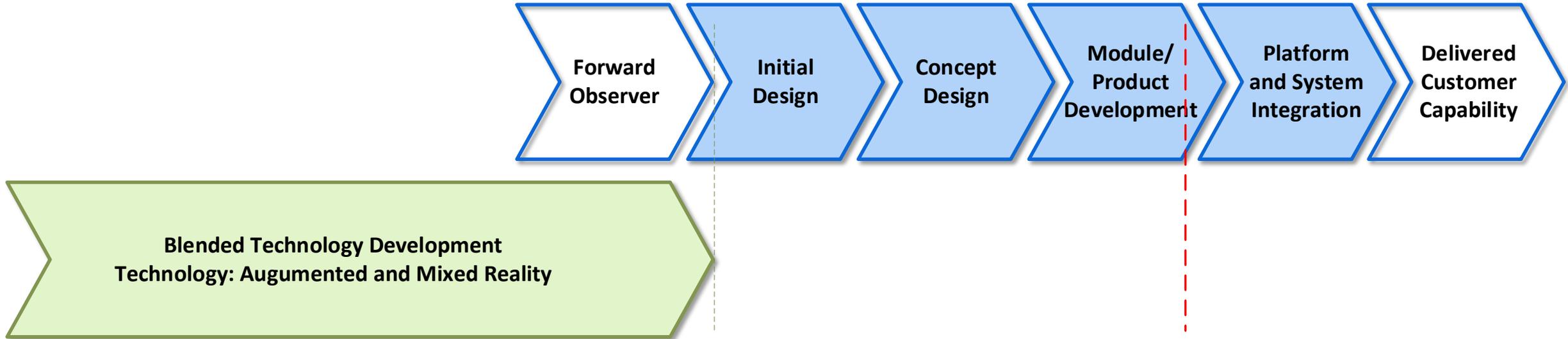
- **Separating** Technology development from Module/Product development.
- Secure knowledge and **technology maturity** before Module/Product development.
- Initial and Concept Design used to analyze, understand and to **mitigate risks**.
- Initial and Concept Design convert a complex required Customer Capability into several specific Module/Product Development activities through Systems Engineering.

Successful System Development

- Module/Product development performed by
 - **Agile** software development
 - **Waterfall** hardware development.
- New Module/Product integrated into the Platform and included in a **Platform Release**.
- New Platform Releases provide new Customer Capabilities included in a **System Release**.
- Two yearly System Releases performed.
- A System Release consists of three **System Sprints**.
- System Sprints provide a good overview of **development progress**.



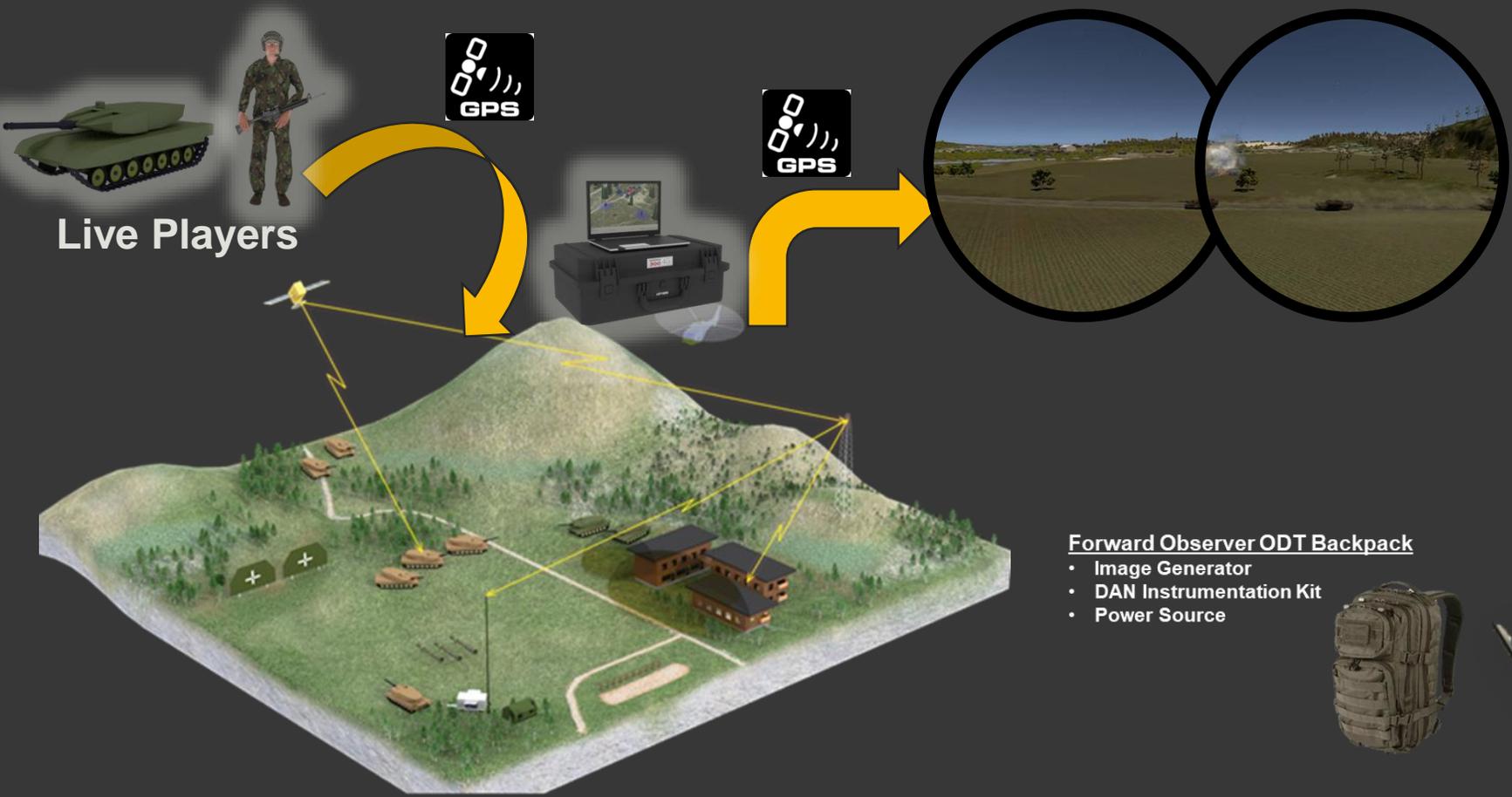
Ex. – Customer Capability Forward Observer



- Three year technology development prior to start of system development.
- Based on the new technology the first Required Customer Capability for Forward Observer training was identified.
- Module/Product Development phase in progress.

Forward Observer ODT

In Development



Trainer
Running on LIVE data
Ruggedized for field use

- Forward Observer ODT Backpack**
- Image Generator
 - DAN Instrumentation Kit
 - Power Source



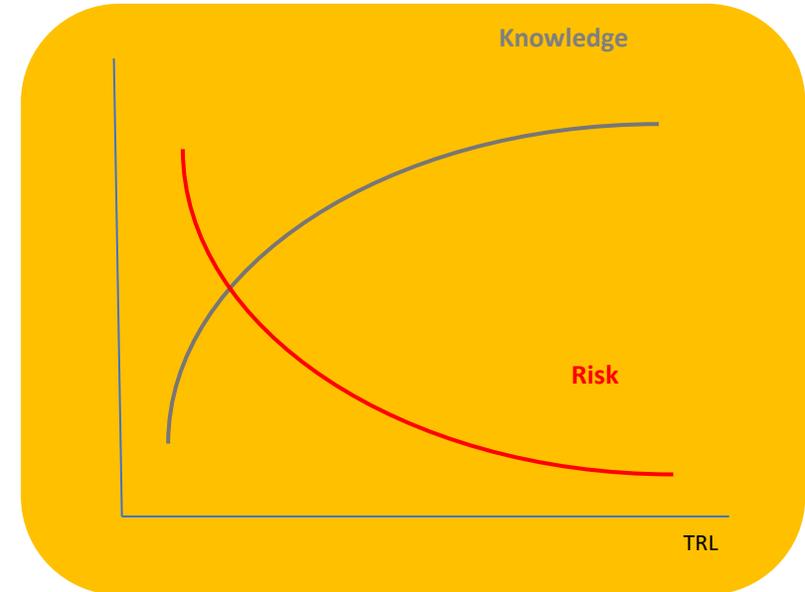
- Forward Observer ODT Binoculars**
- Day and night view
 - Range measurement



Building knowledge together with JU

Research collaborations

- Access to research environment, acquire new knowledge
- Access to students
- Network of companies



Building knowledge together with JU

Research project MAPPE (2019-2021)

- Technology study on learning and evaluation techniques.
- Analyzing shooting performance based on sensor data and machine learning.

Research profile AFAIR (2021-)

- Technology study on learning and evaluation techniques.
- Analyzing and optimizing support services and design processes based on usage and maintenance data.

