



SIMPLE WAY OF BONDING

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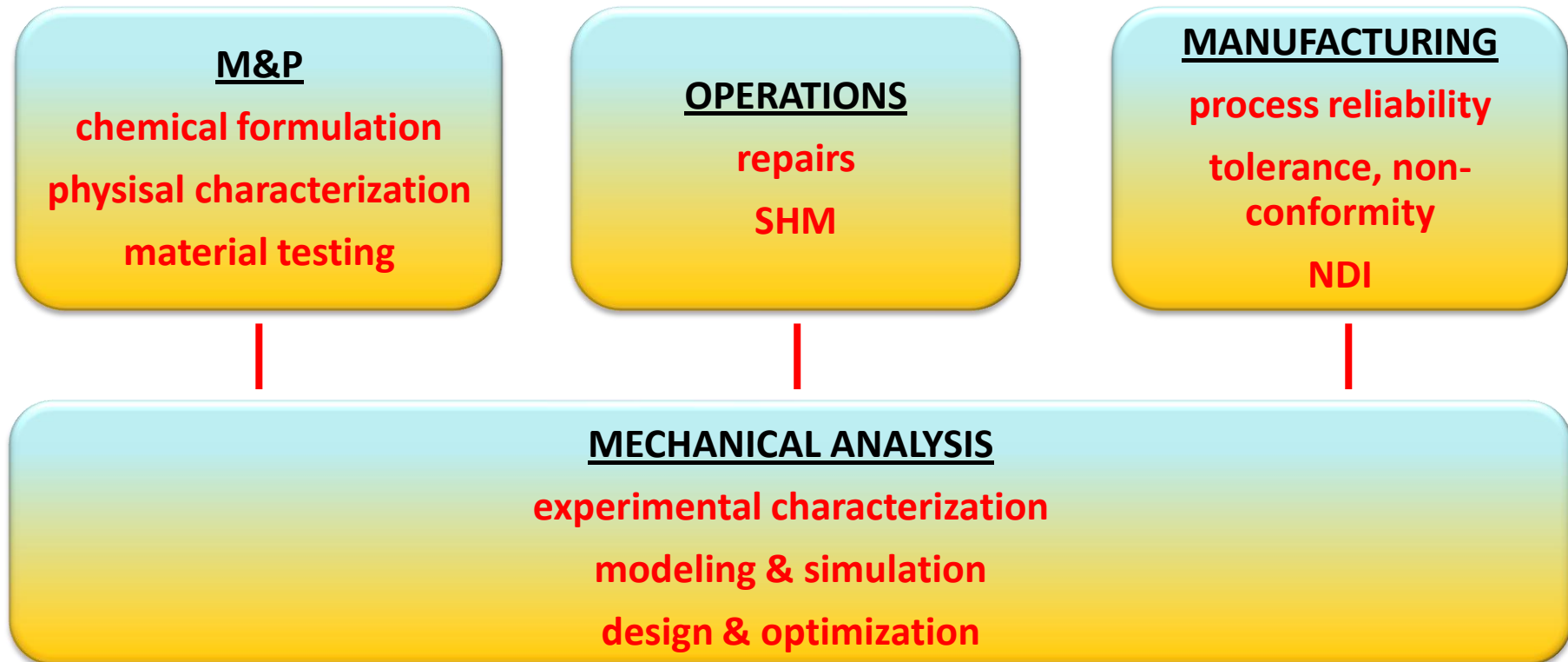


SIMPLE WAY OF BONDING

MOTIVATION

BONDING TECHNOLOGY CONTROL

✓ “Stress can support M&P, Manufacturing and Operations”





SIMPLE WAY OF BONDING

OBJECTIVE

- ✓ **Cost reduction** over the lifecycle of adhesively bonded assemblies while ensuring **reliability**, **durability** and **efficiency**, through **the control of the bonding technology**
- ✓ A more widespread industrial **in-line** application of bonding technology, through the development of **joint monitoring system**
- ✓ For the particular case of composite materials, bonding technology can be regarded as the key to fully take advantage of high stiffness to mass ratio



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PERIMETER

✓ Perimeter:

- **multi-materials assemblies:** composite, metallic and composite/metallic
- **multi-technique assemblies:** bonding and hybrid (bolting/bonding)
- **new generation of materials:** recycling composite, process tolerant nanostructured adhesives
- **data management:** Big Data, Internet of Things, Augmented Reality, Mobility

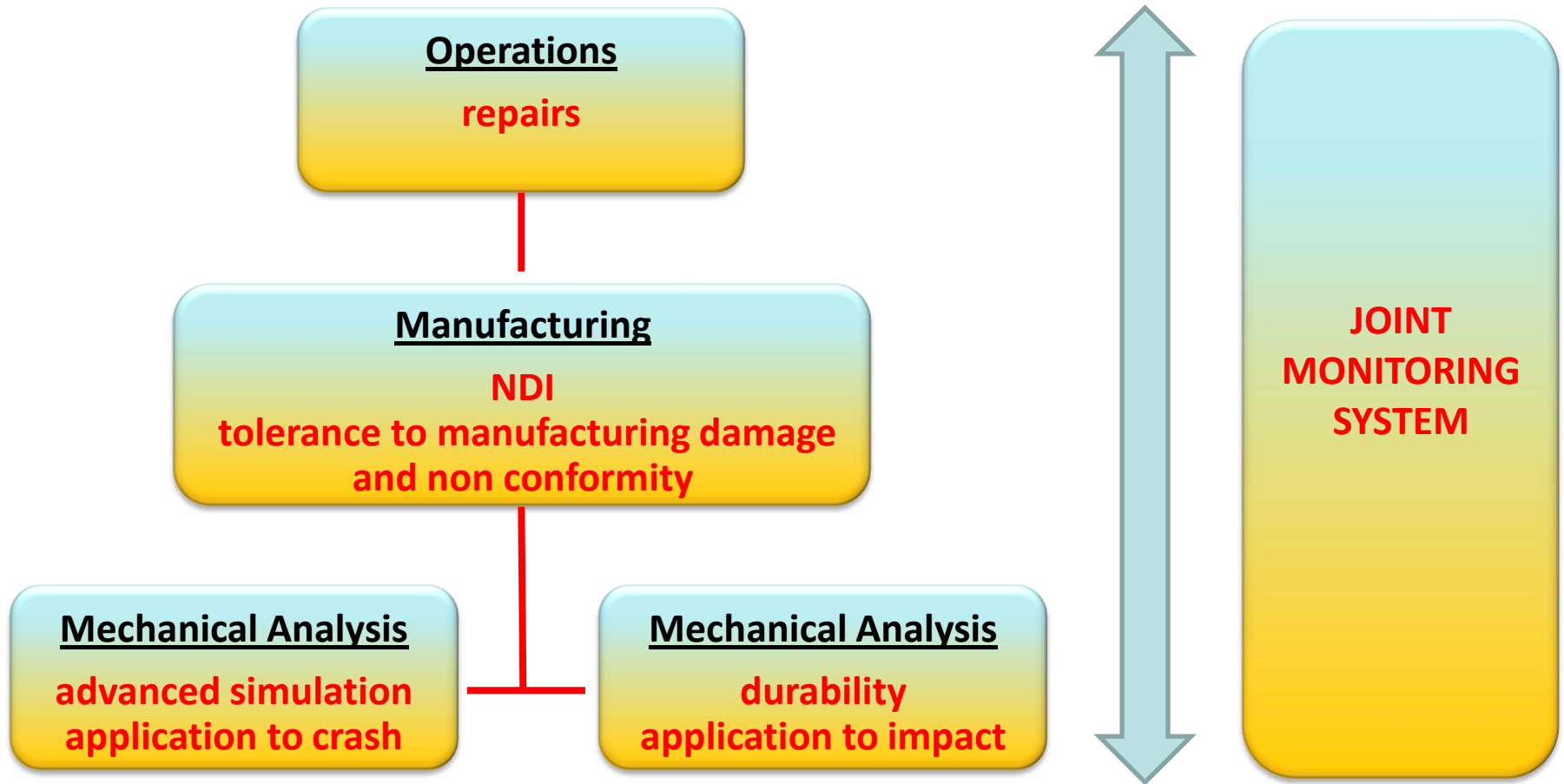
✓ Skills involved:

- **physical & material experimental characterization**
- **advanced (multi-scale) modeling, simulation & optimization**
- **sensing technologies**
- **system & software integration**



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PERIMETER





SIMPLE WAY OF BONDING

OVERVIEW

TITLE	« Simple Way of Bonding »
THEME	Multi-Materials Multi-Technique Joining
TECHNOLOGIES	Bonding, Bonding / Bolting,
AXIS	Reliable Manufacturing of Durable and Efficient Joints
APPROACH	Full Scale Monitoring
DURATION	5 years, January 2015 to December 2019
PRODUCT	Joint Monitoring System
FUNDING	H2020 / FoF 8 (TBC)



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CONCEPT

Used in production environment, the cost of bonding control is high and includes a lot of heterogeneous data. All of part of the assembly must be compliant with specifics criteria (temperature, stress behaviour, cleanliness, ..). Quality of storage, environment context and antiquated must be monitored and managed to increase reliability of the operation.

Joint Monitoring System aims at ensuring the reliability of durable efficient bonded joints. It is composed by several modules such a computation core module and a Manufacturing Reliability Monitoring.
The Manufacturing Reliability Monitoring aims at assisting production management to ensure the optimized context for bonding technology in manufacturing environment.

