

DATE²³

DESIGN, AUTOMATION & TEST IN EUROPE

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The European Event for Electronic
System Design & Test

SAFEXPLAIN

Safe and Explainable
Critical Embedded Systems based on AI



Safe and explainable critical embedded systems based on AI

Francisco J. Cazorla

Barcelona Supercomputing Center (BSC)



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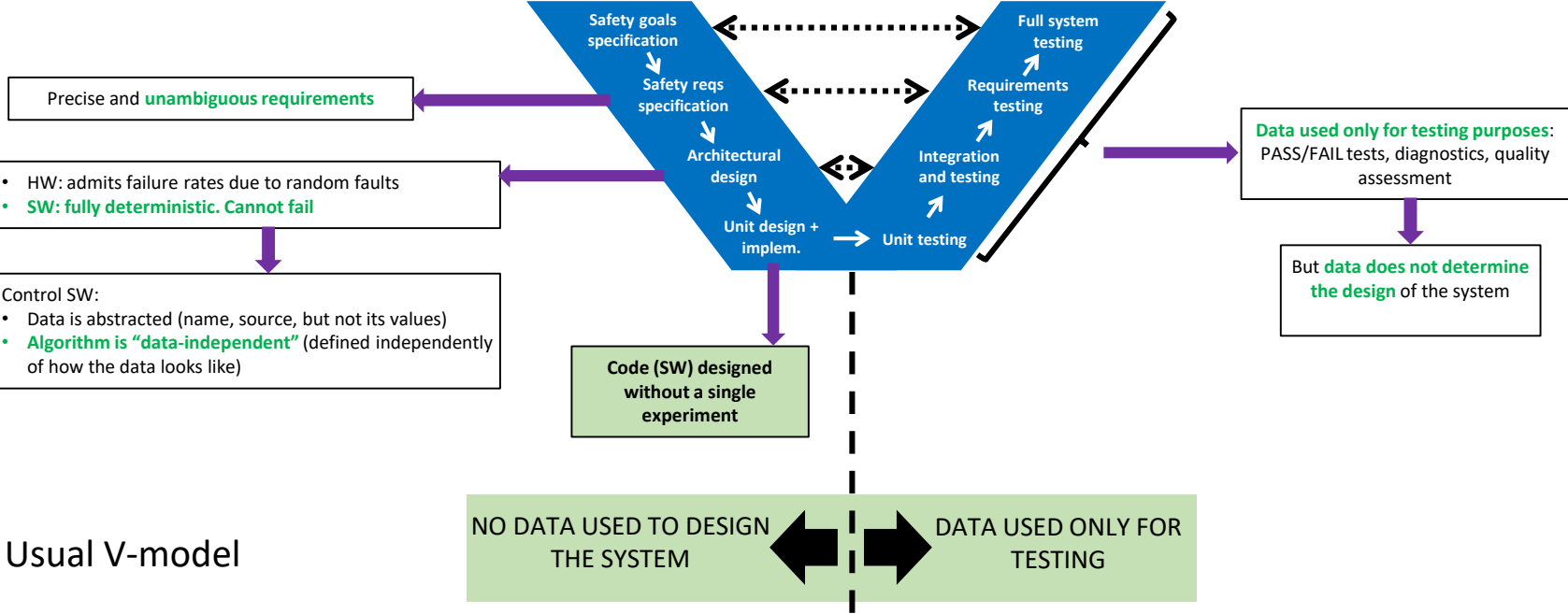
Scope

- **Critical Embedded Systems (CES)**
 - Common in domains like automotive, space, railway, avionics, etc.
 - Increasingly rely on Artificial Intelligence (AI) for many cutting edge functionalities
 - Must undergo **certification/qualification**
- AI at odds with functional safety certification/qualification processes

How to reconcile AI nature and certification/qualification needs of CES?

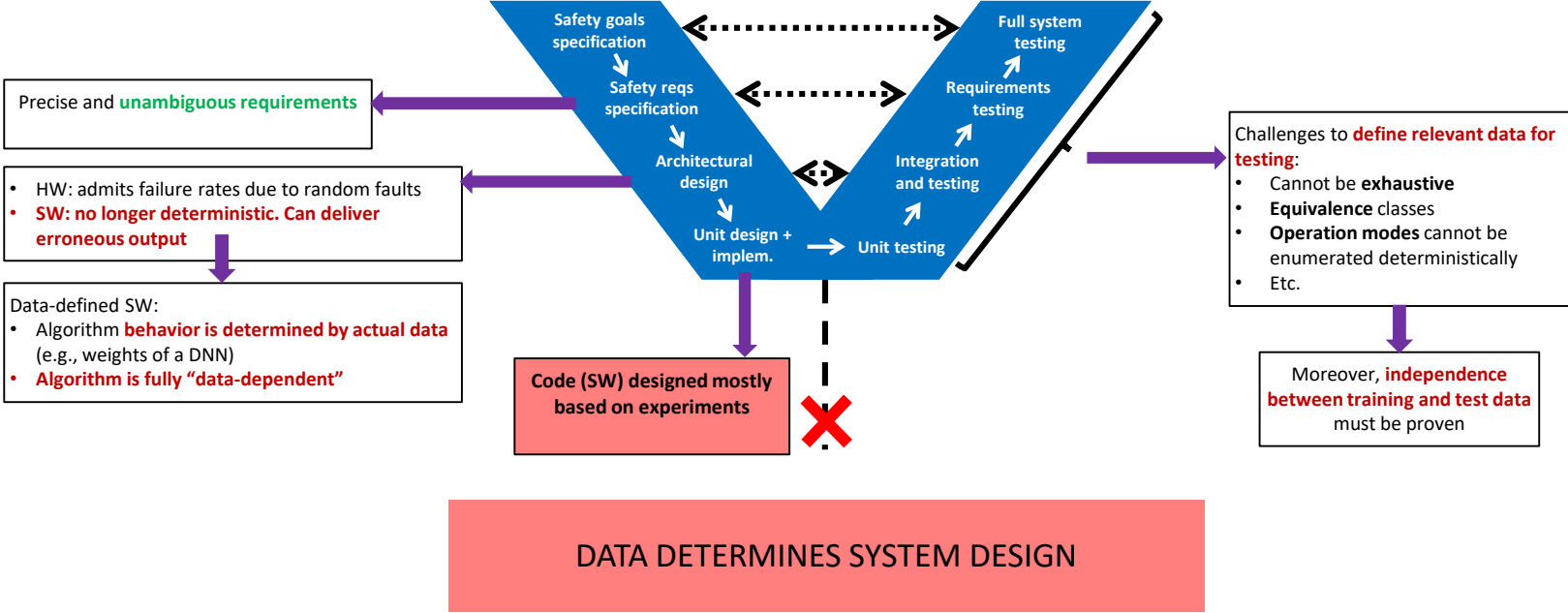
Safety-related Systems Development Process

- Usual V-model



Safety-related Systems Development Process

- AI-related challenges



SAFEXPLAIN

- **GOAL 1: Devise new DL components providing explainability and traceability by design**
- **GOAL 2: Adapt software safety life cycle steps and the architecture of solutions based on DL components so that certification is viable**

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<https://www.bsc.es/>

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<https://www.navinfo.eu/>

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<https://www.exida-eu.com/>

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Jaume Abella
Project Coordinator