



KI

ABSICHERUNG

Safe AI for Automated Driving

Final Event | June 23rd 2022

KI Absicherung: Project overview, challenges and results

PD Dr. Michael Mock, Fraunhofer IAIS

Dr. Stephan Scholz, Volkswagen AG



Challenge



AI Land



Pixabay

Promising new technology with unimagined possibilities

Established safety processes cannot be applied



Safety Land



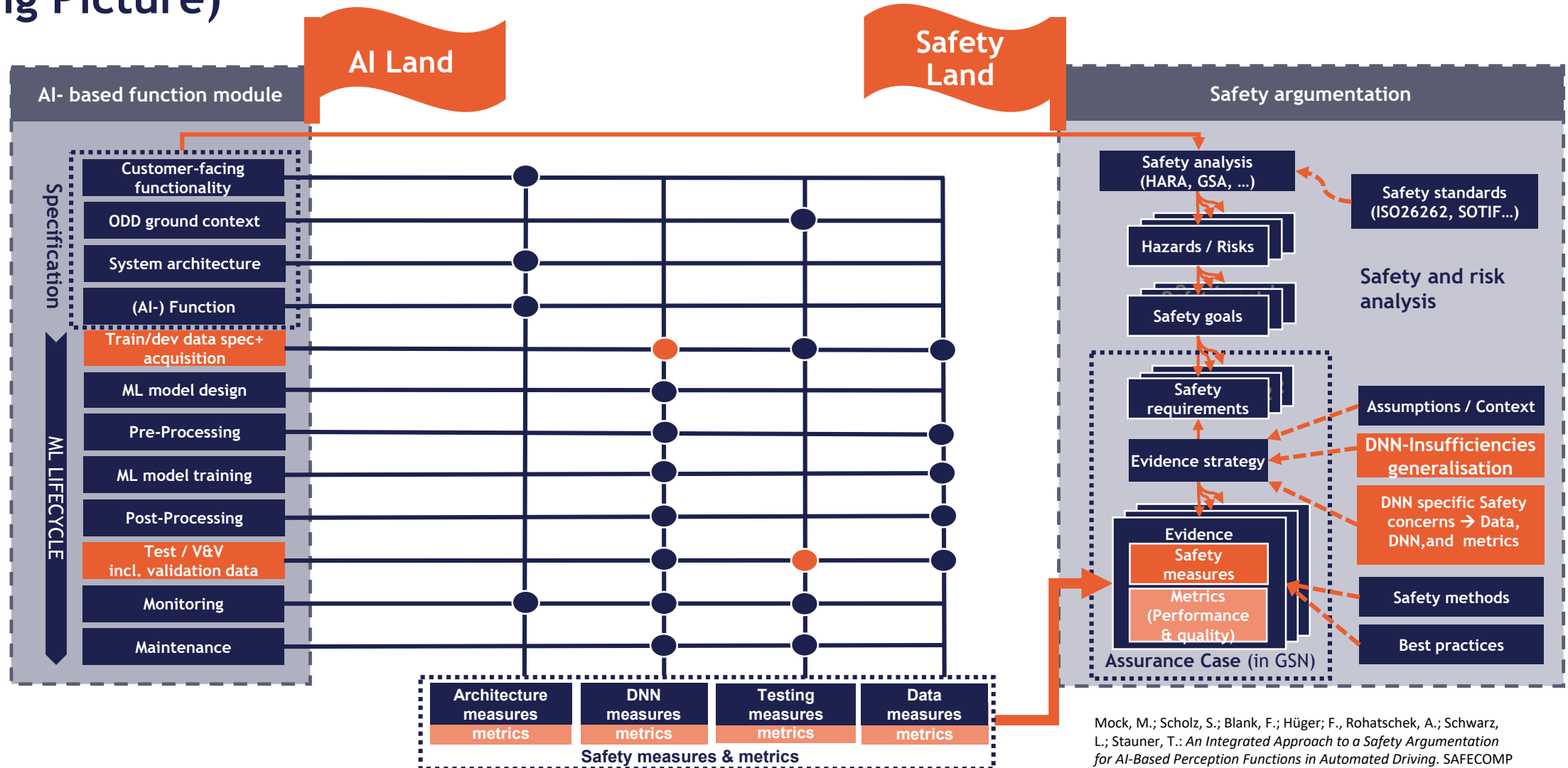
Pixabay

Safe, trustworthy driving function



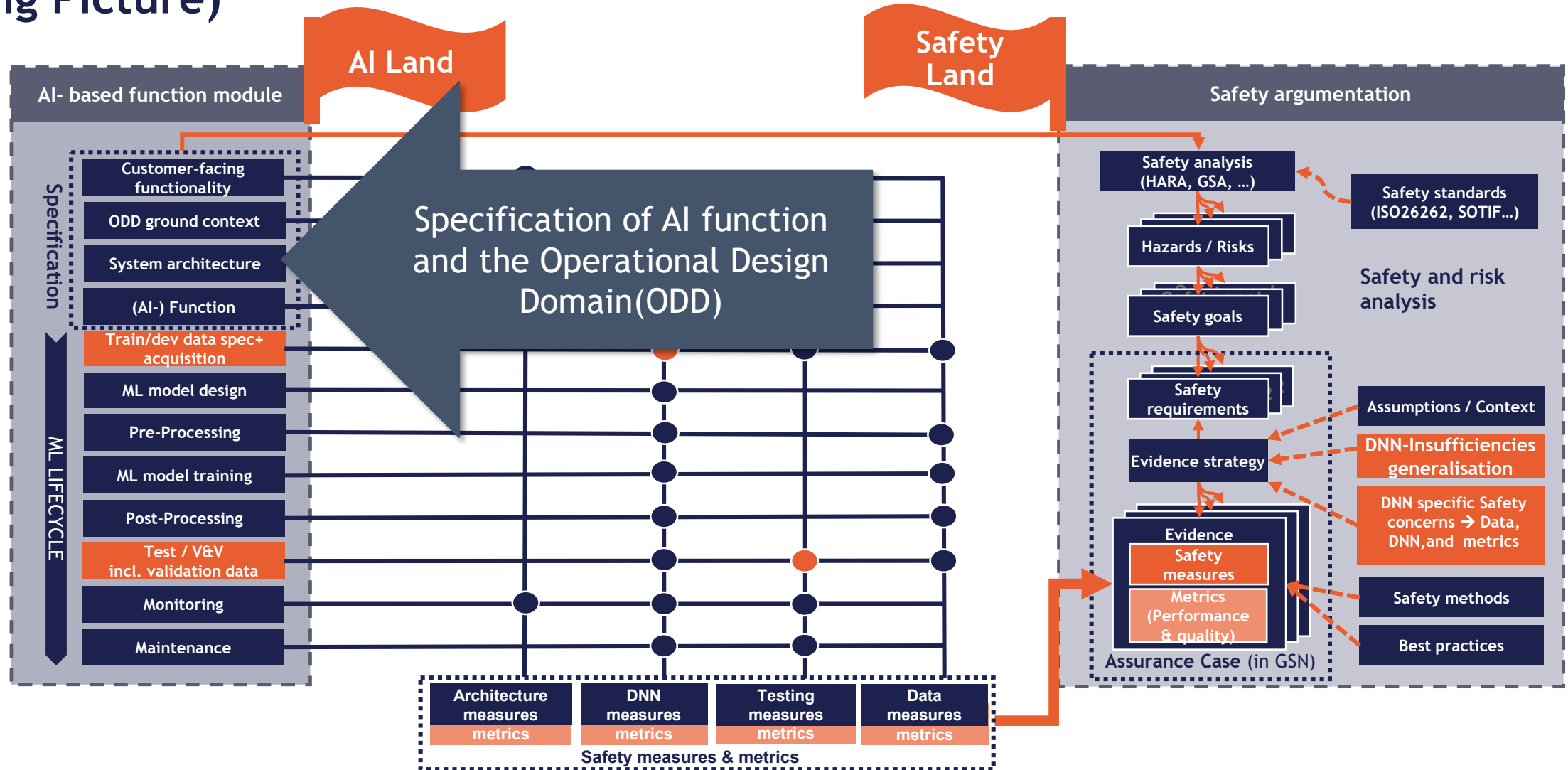
Industry consensus (Safe AI): Methodology for joint safety argumentation

Project Approach to a Safety Argumentation for AI-based Functions (Big Picture)

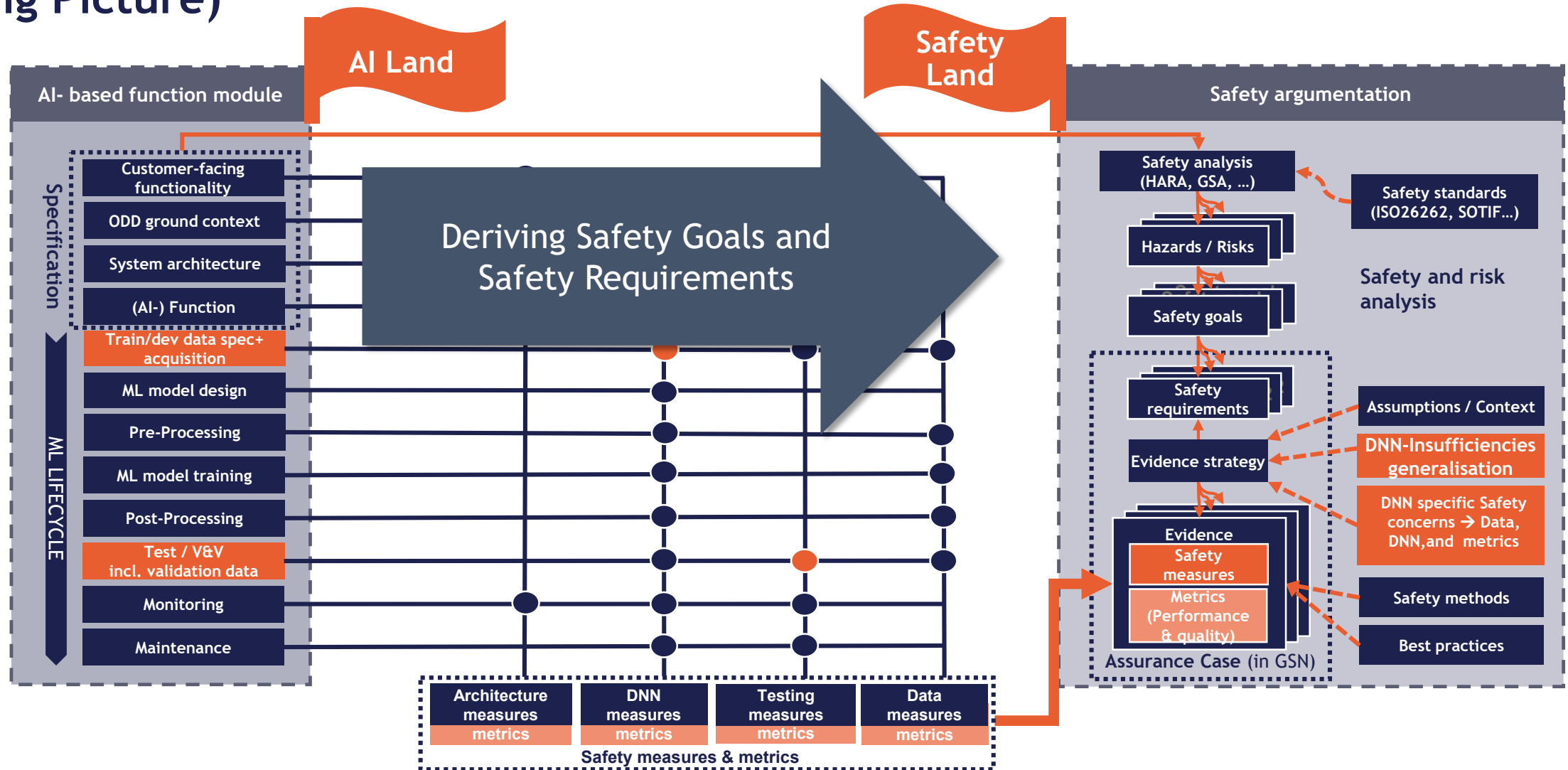


Mock, M.; Scholz, S.; Blank, F.; Hüger, F.; Rohatschek, A.; Schwarz, L.; Stauner, T.: *An Integrated Approach to a Safety Argumentation for AI-Based Perception Functions in Automated Driving*. SAFECOMP Workshops, Springer, 2021

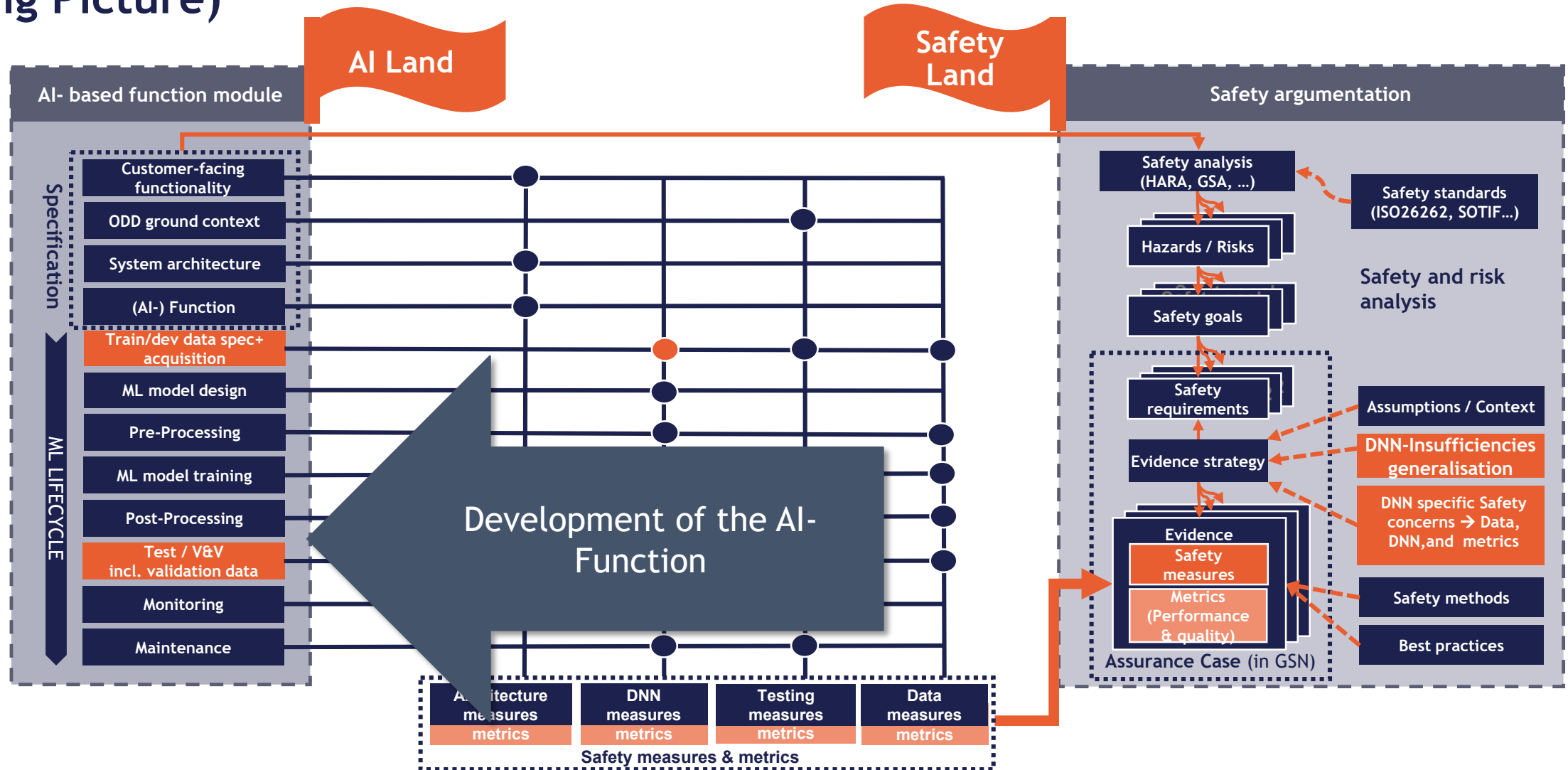
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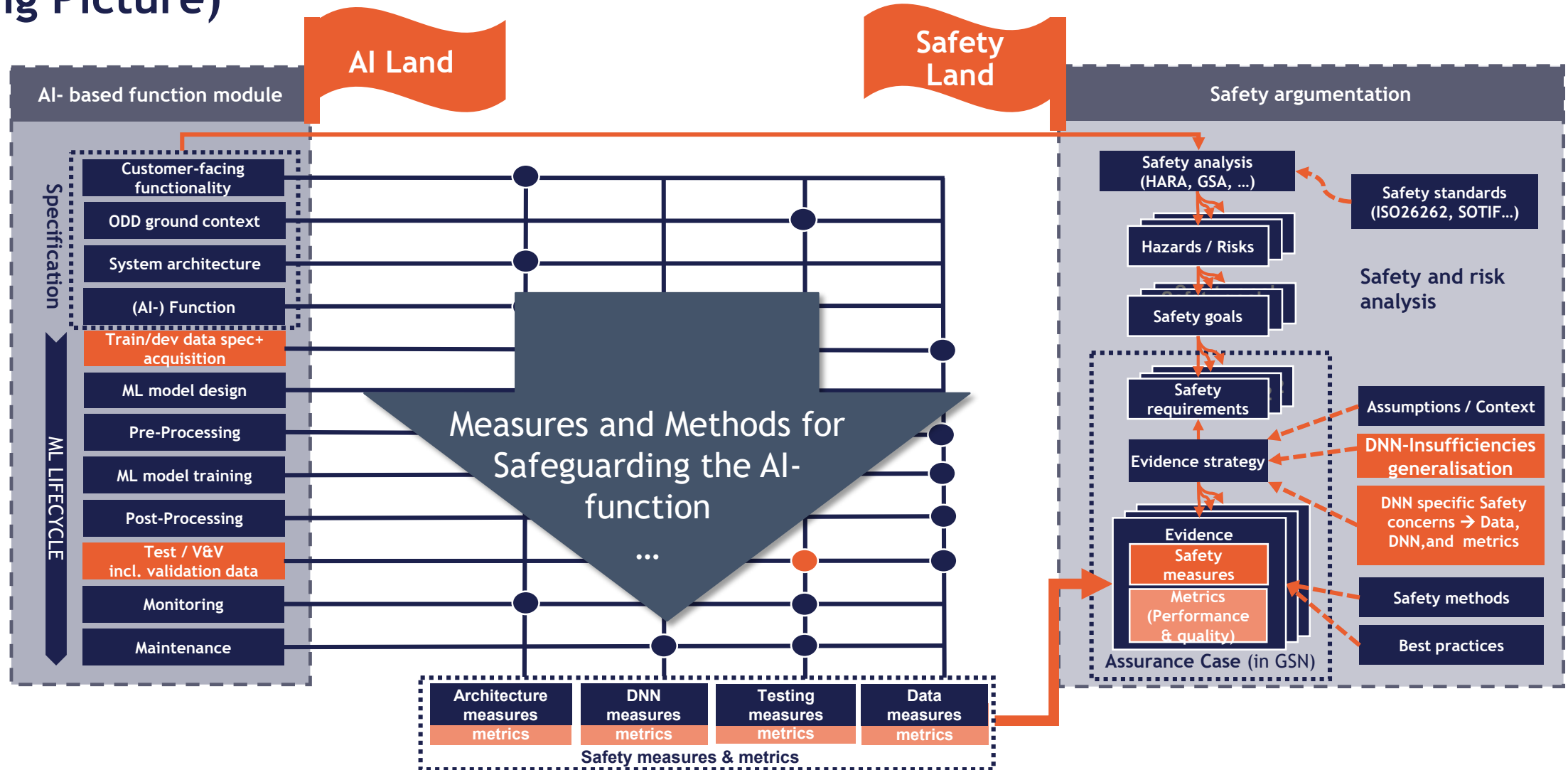
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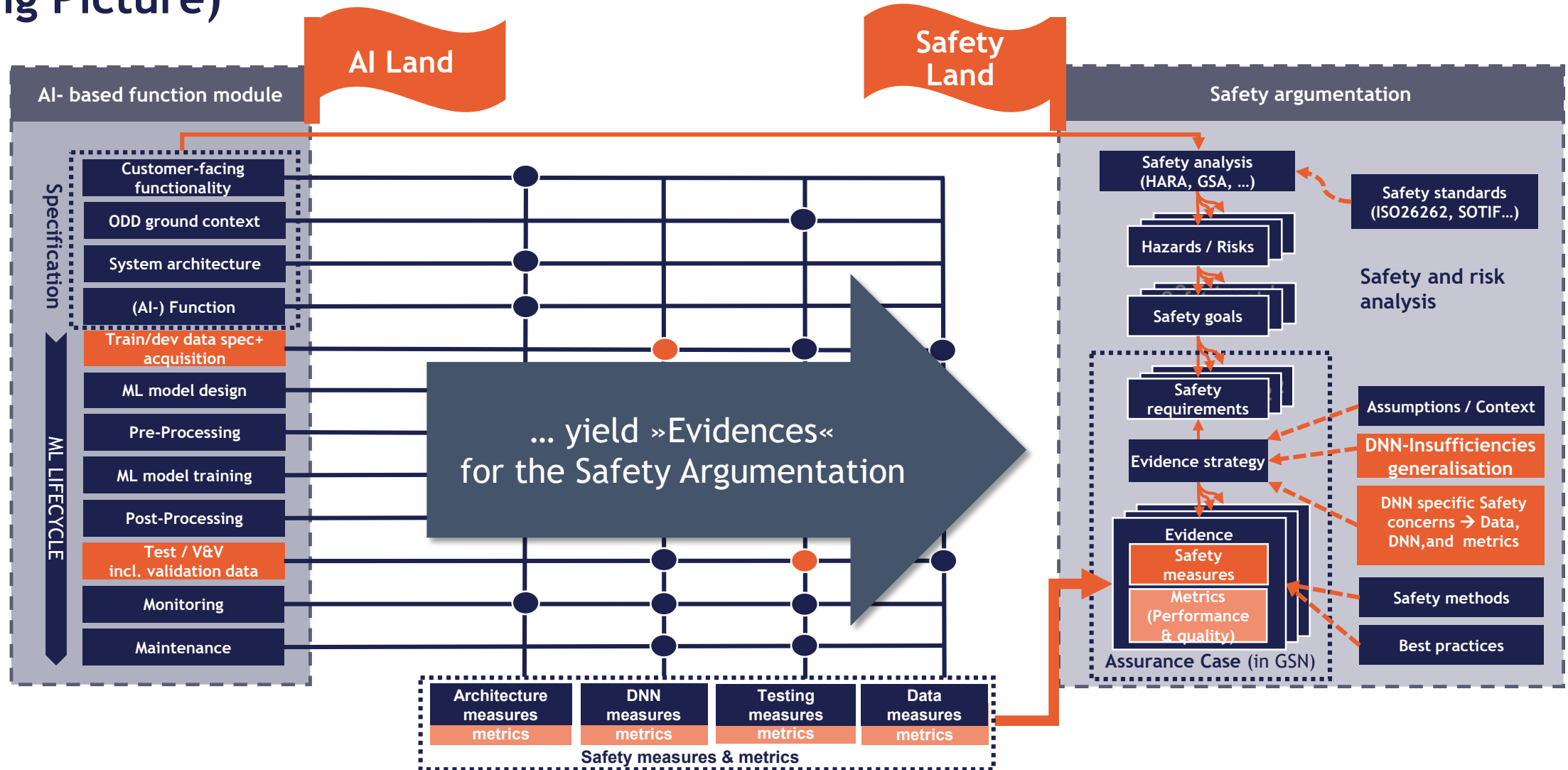
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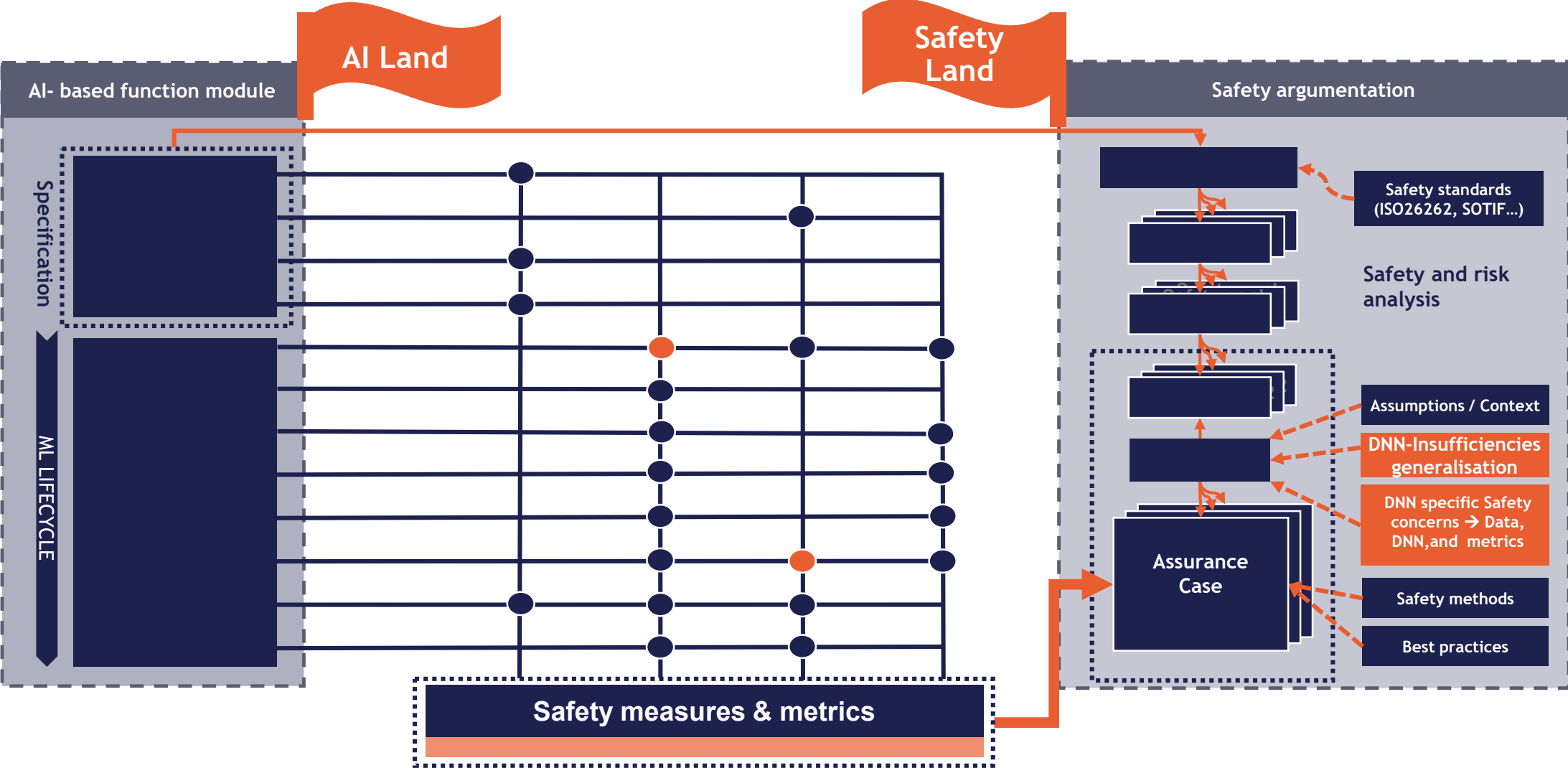
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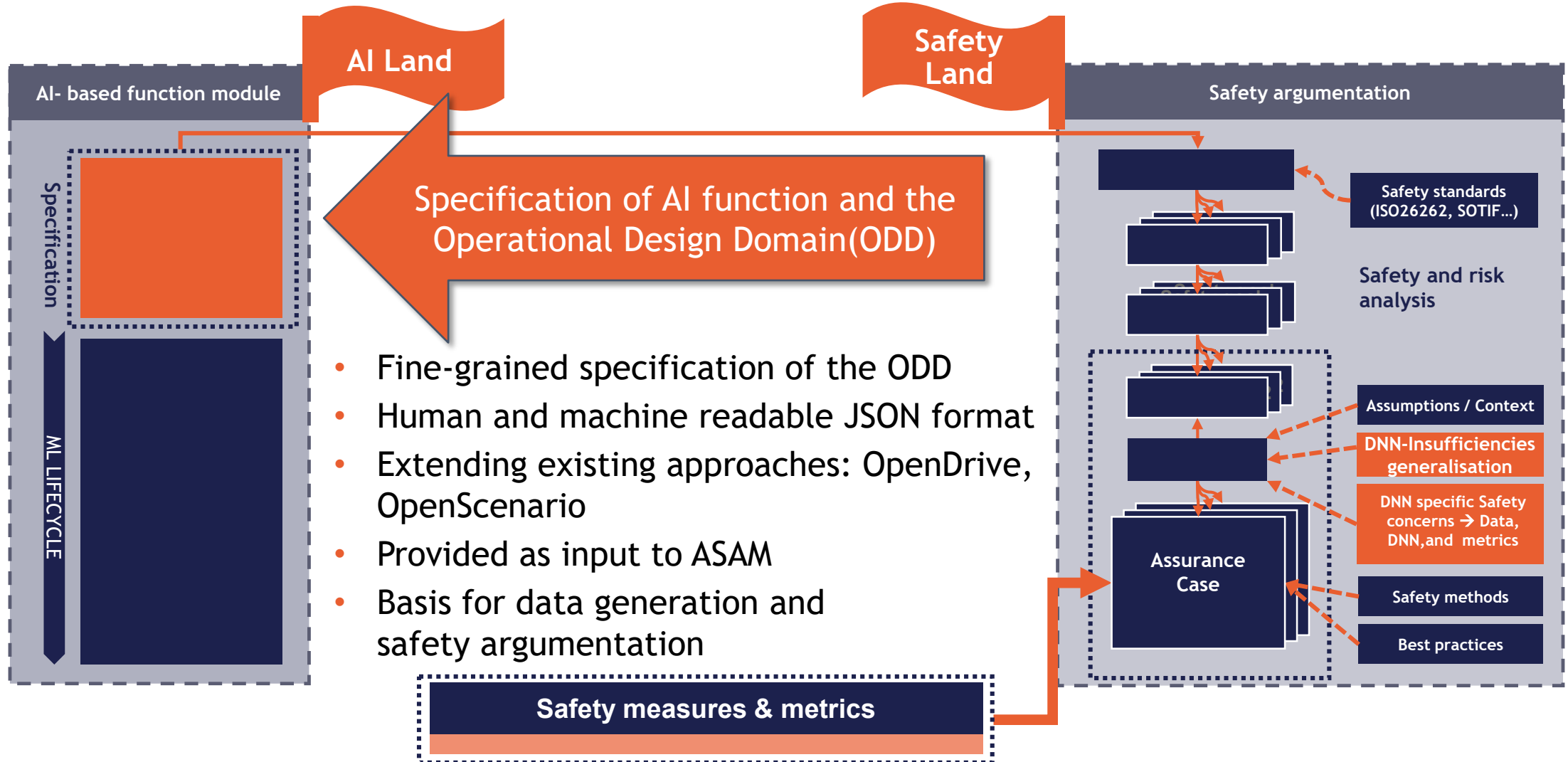
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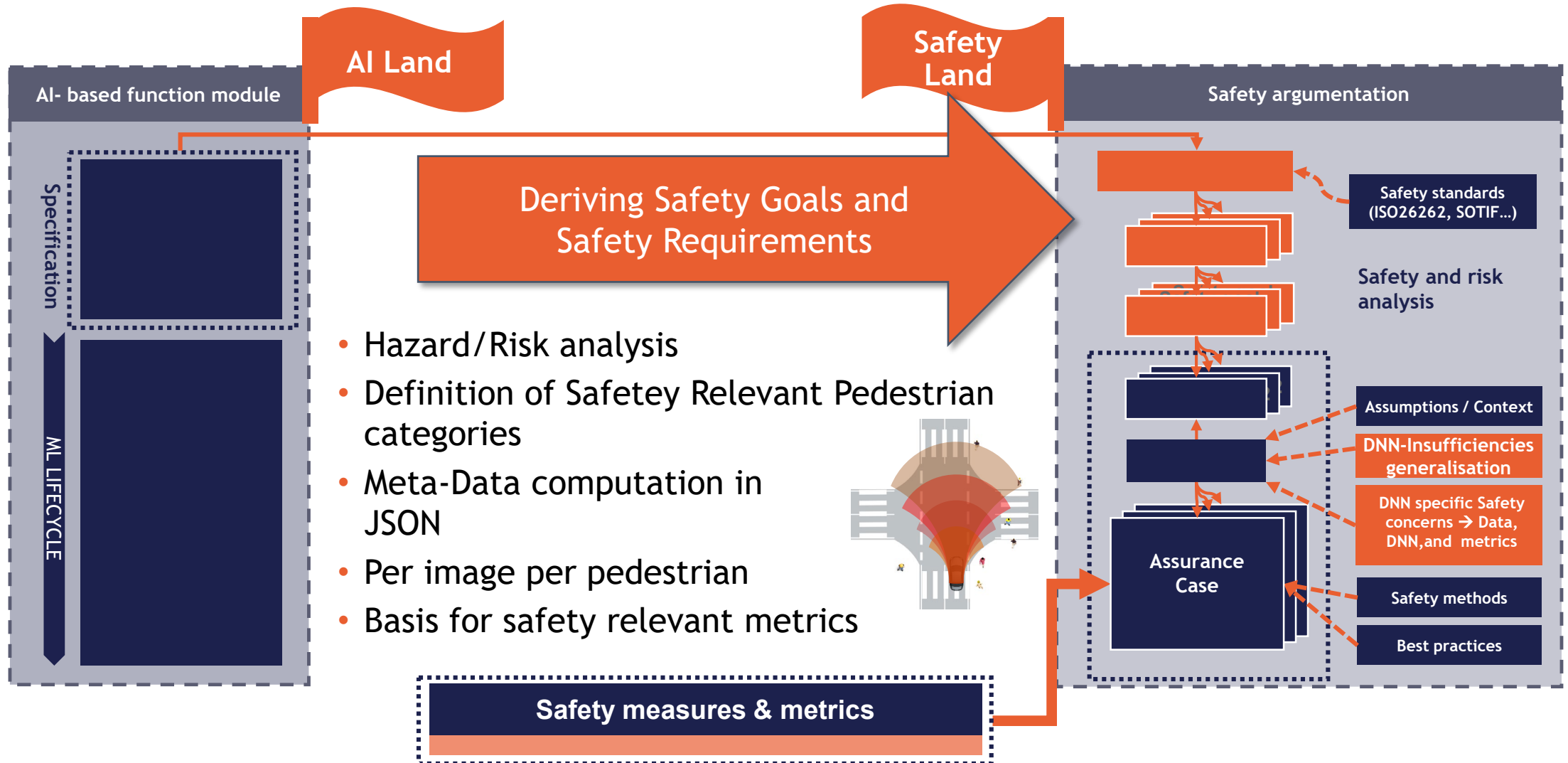
Technical Operationalization



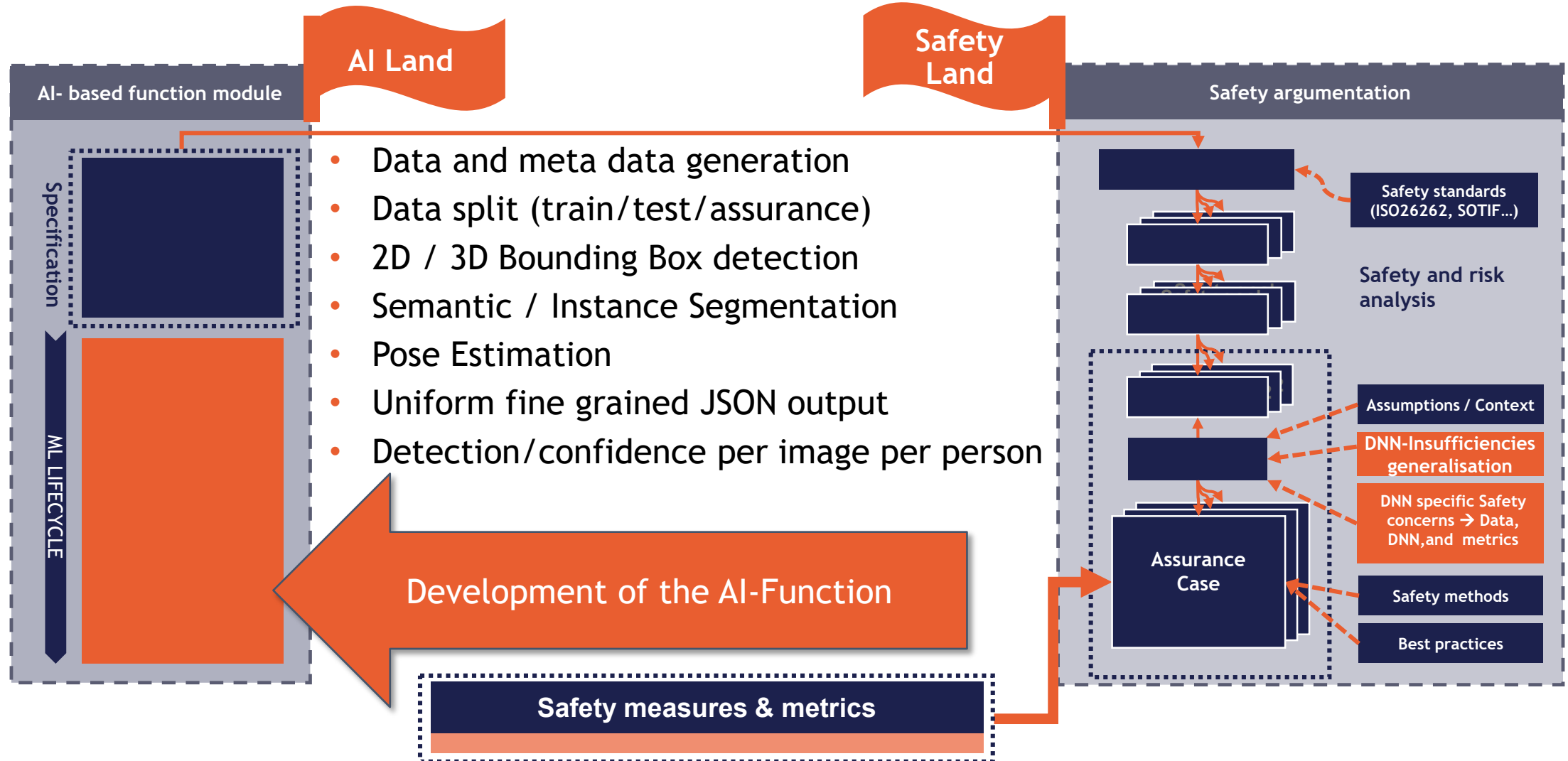
Technical Operationalization



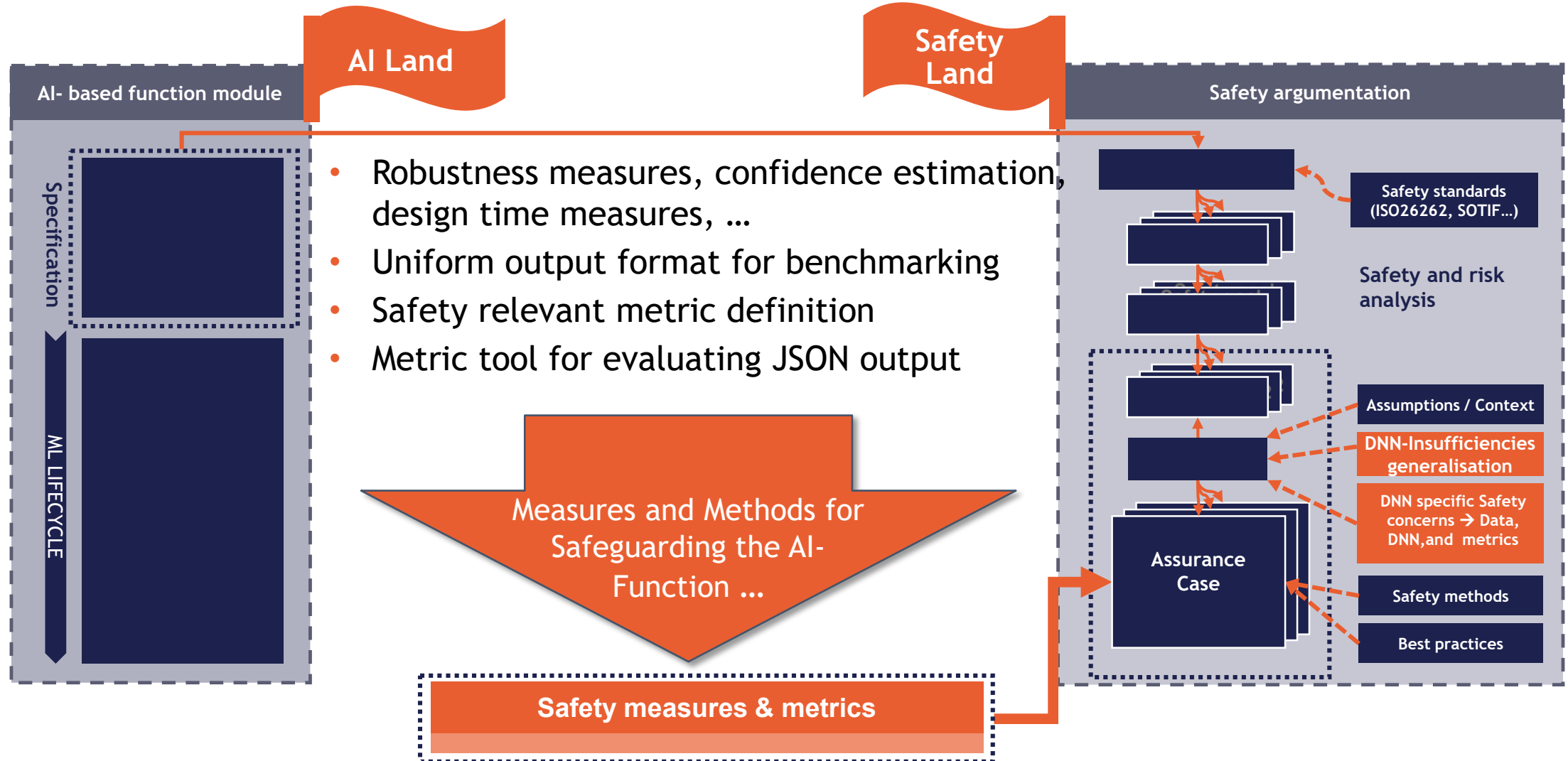
Technical Operationalization



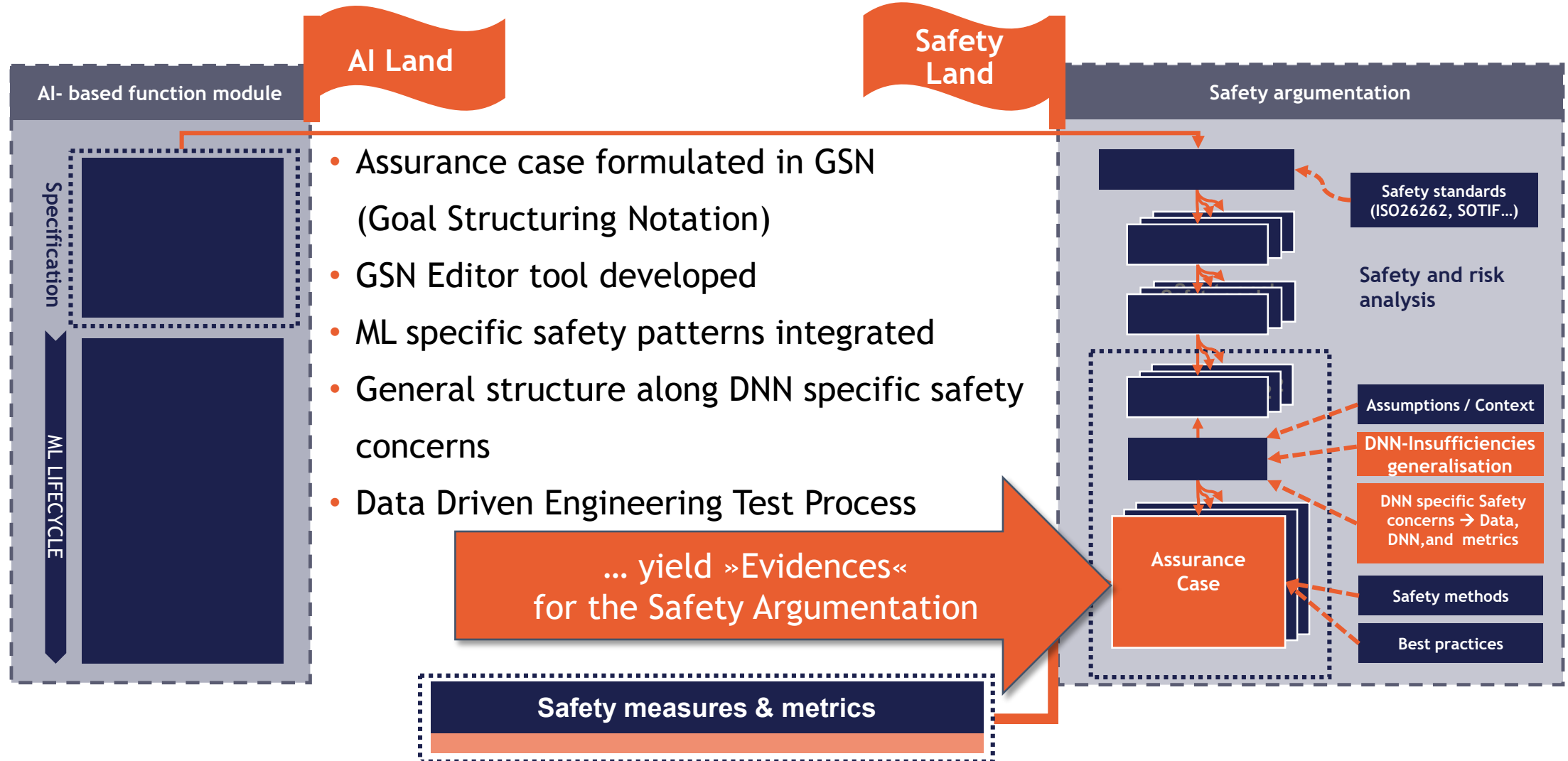
Technical Operationalization



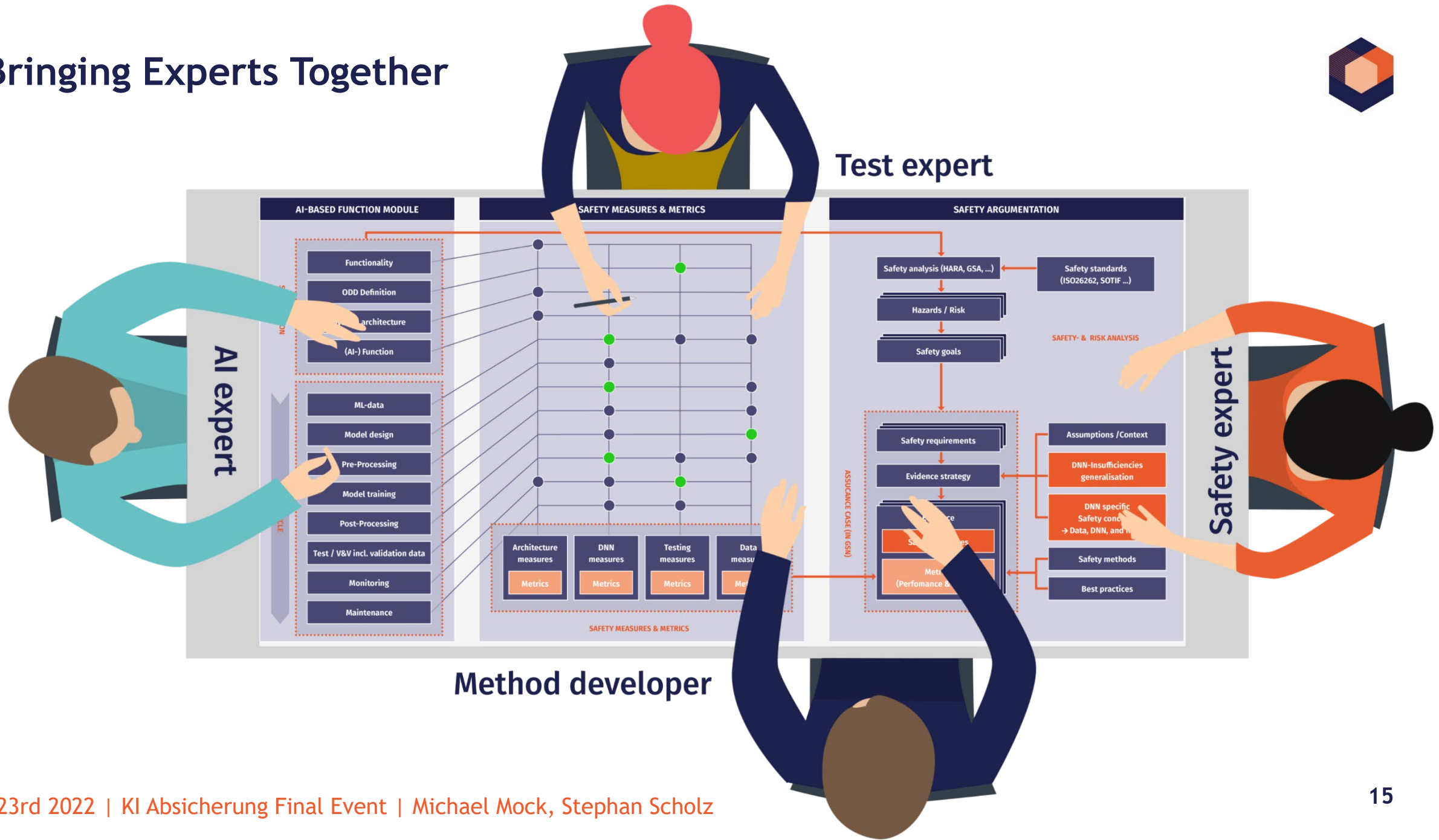
Technical Operationalization



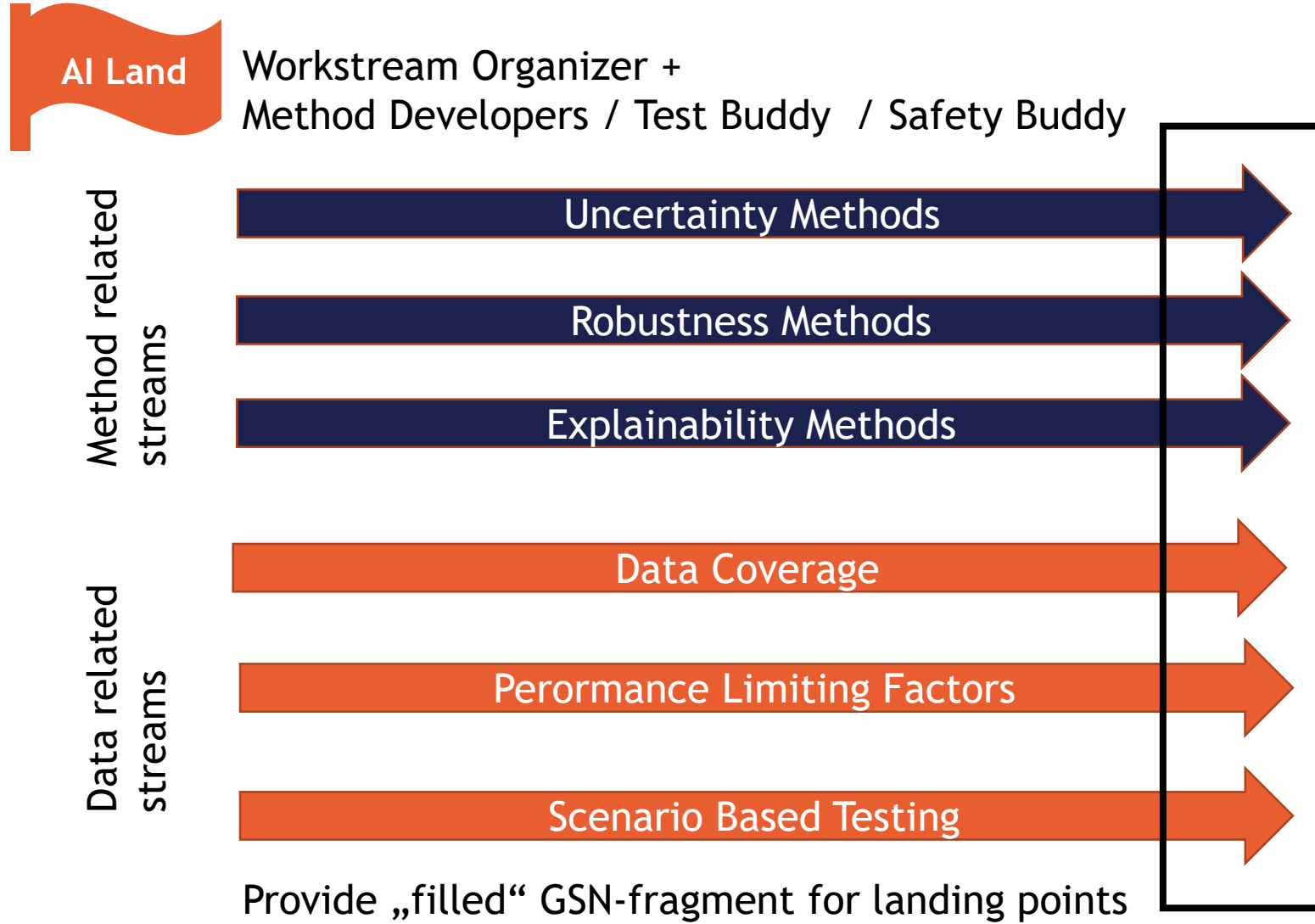
Technical Operationalization



Bringing Experts Together



Process Operationalization: Evidence Workstreams



Evidences for Dealing with DNN-Specific Safety Concerns

DNN-characteristics related concerns
unreliable confidence information, brittleness of DNNs, incomprehensible, unplausible behavior

Data-related concerns
Data distribution vs. Real world ODD, ODD specification, rare critical situations, distribution shift, label quality, meta-data, ...

Metric-related concerns
Safety un-aware metrics

<https://ki-familie.vdali.de/ki-newsletter-nr-2/ki-absicherung-dnn-specific-safety-concerns>



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PD Dr. Michael Mock, Fraunhofer IAIS
Dr. Stephan Scholz, Volkswagen AG
michael.mock@iais.fraunhofer.de

KI Absicherung ist ein Projekt der KI Familie
und wurde aus der VDA Leitinitiative autonomes
und vernetztes Fahren heraus entwickelt.

www.ki-absicherung.vdali.de  @KI_Familie  KI Familie



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