

A.) Johannes Kuhn - CertAI

- 1.) Intro: Market Development – Risk in AI
- 2.) Intro: Munich Re portfolio of AI risk solutions
- 3.) CertAI – prevention of risk through TrustworthyAI assessments and quality seals
- 4.) Example of CertAI assessment for Insurance use case

B.) Sarna Neeraj - Aisure

- 5.) Aisure – Insurance of AI performance
- 6.) Performance guarantees
- 7.) Methodology

Market Development

01



2015

Exploration of AI use-cases and development of solutions become a top priority on the strategic agenda of companies

Wave I:
AI Development

Wave II:
AI Deployment

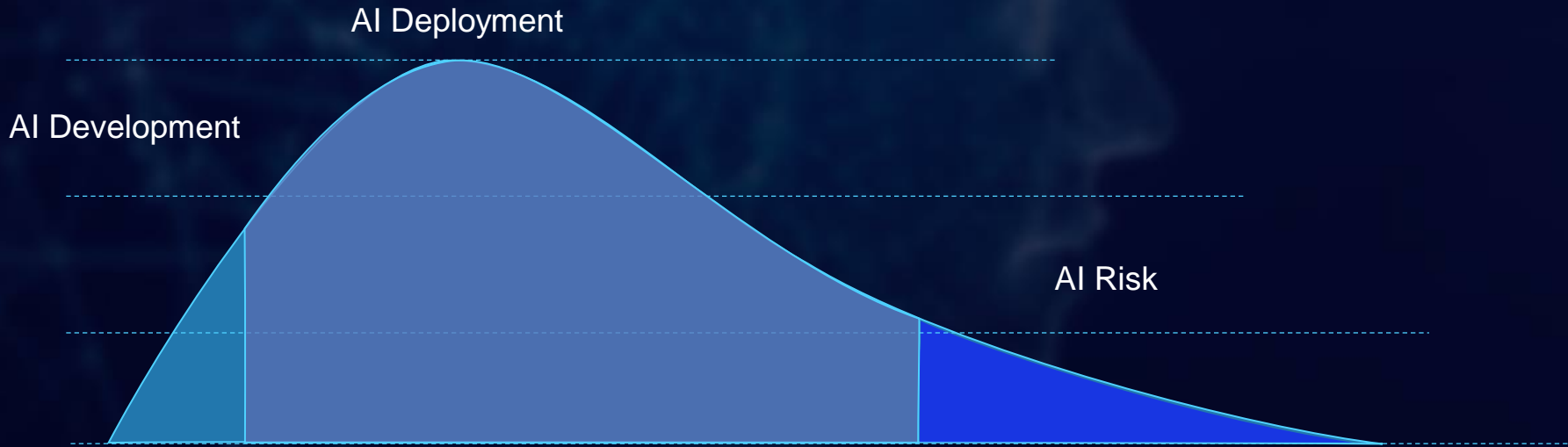
Wave III:
AI Risk



A wave of developed AI solutions require to be deployed

2020

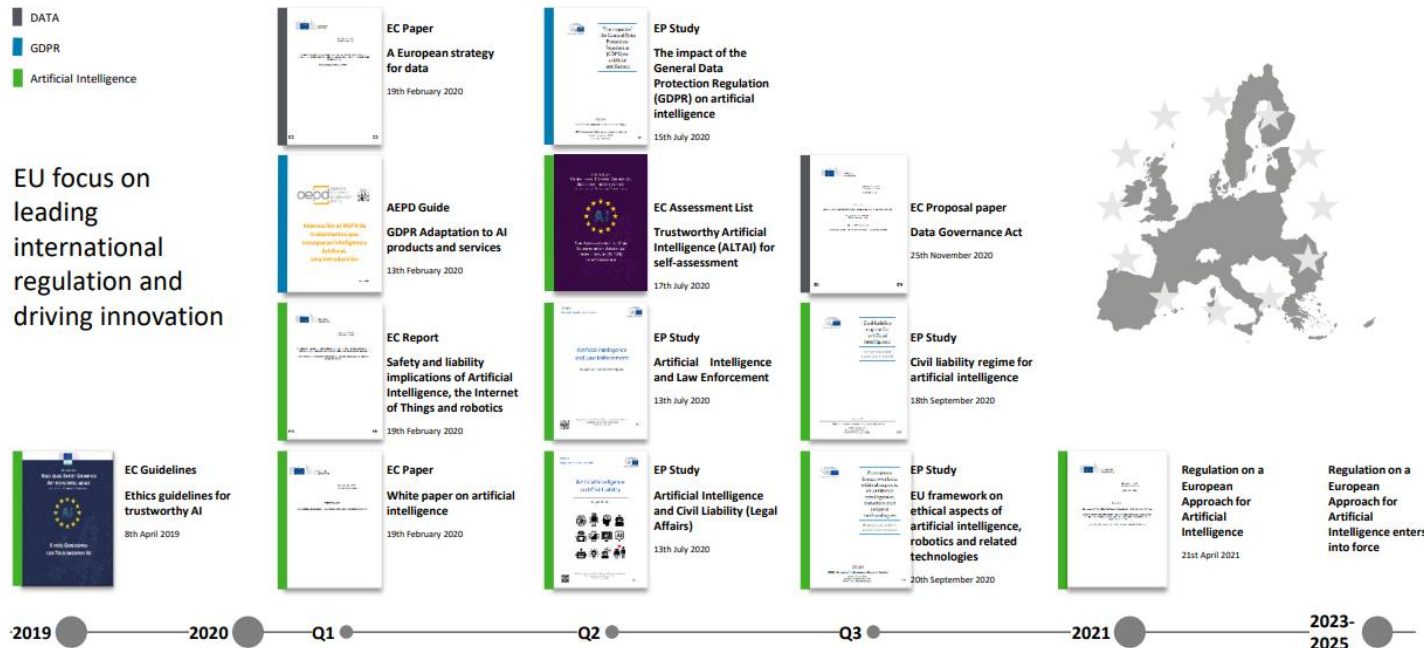
Major efforts arised for companies to deploy AI product and solutions in their supply- and value chains



EU AI Act – important regulation managing AI risk, but also introducing additional compliance risk for companies







AI Act – a Proposal 2 Years in the Making

Since the HLEG proposal, 1215 institutions and individuals have contributed, signaling the need for action.



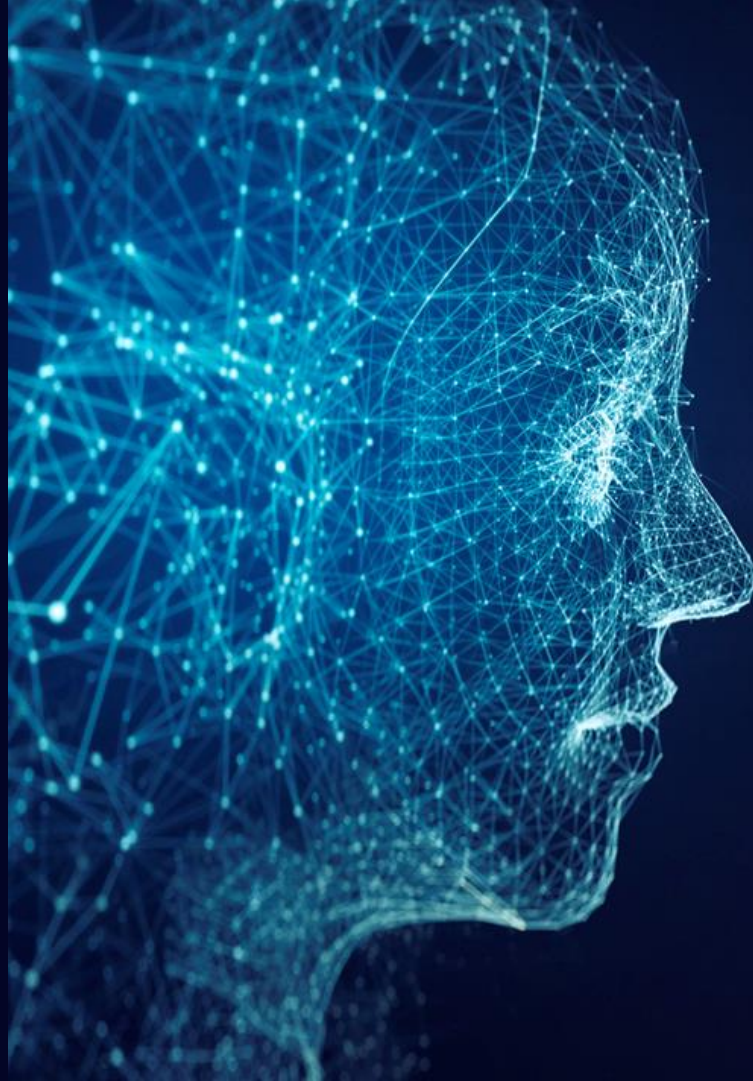
EU AI Act and common insurance AI use cases

★ Examples of use cases possibly affected by the EU AI Act

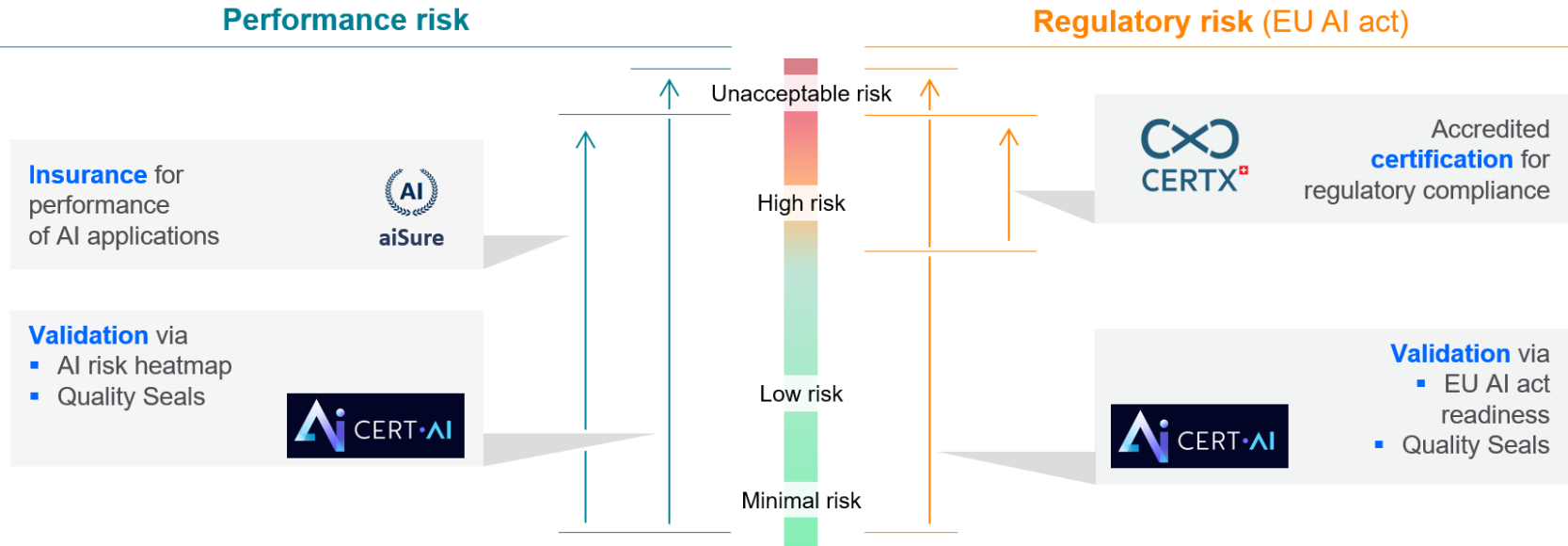
|  Product design and development |  Pricing and underwriting |  Sales and distribution |  Customer service |  Loss Prevention |  Claims management |
|---|---|---|--|--|--|
| <ul style="list-style-type: none"> Historical customer and survey data analysis to inform new products Predictive modelling of disease development patterns Novel products, e.g., parametric and usage-based insurance | <ul style="list-style-type: none"> ★ Enhanced risk assessments combining traditional and new data sources (including IoT data) ★ Price optimisation: micro-segment/ personalised pricing based on non-risk individual behavioural data (e.g., to estimate price elasticity, lifetime value and propensity to churn) and market competition analysis | <ul style="list-style-type: none"> Digital marketing techniques based on the dynamic analysis of online search behaviour Virtual Assistant and Chatbots that utilise Natural Language Processing (NLP) and insurance ontologies to support communication Proactive customer communication, nudging and cross-selling of related services (“next-best action”) based on consumer data from Customer Relationship Management (CRM) systems | <ul style="list-style-type: none"> Call centre sentiment analysis route cause analysis, dynamic scripting and agent allocation Customer self-service through multiple channels using NLP, voice recognition, insurance ontology maps and chatbot Robotic Process Automation (RPA) including Optical Character Recognition (OCR) to extract information from documents (e.g., FNOL, email with questions, complaints, etc.) and route them to the correct department | <ul style="list-style-type: none"> ★ Provide diagnostic advice and coaching based on AI analytics from health and automotive big data, e.g., suggest exercise and driving behaviour changes | <ul style="list-style-type: none"> ★ Enhanced fraud analytics: claims scoring, anomaly detection, social network analytics and behavioural modelling Loss reserving use of AI to estimate the value losses, in particular for high-frequency claims AI image recognition to estimate repair costs in household property insurance, business premises and automotive ★ Automated segmentation of claims by type and complexity and automated invoice verification and payment process |

Munich Re's Portfolio of AI risk solutions

02



Munich Re and its partners offer solutions to build trust in AI and ensure ethical usage, compliance and performance

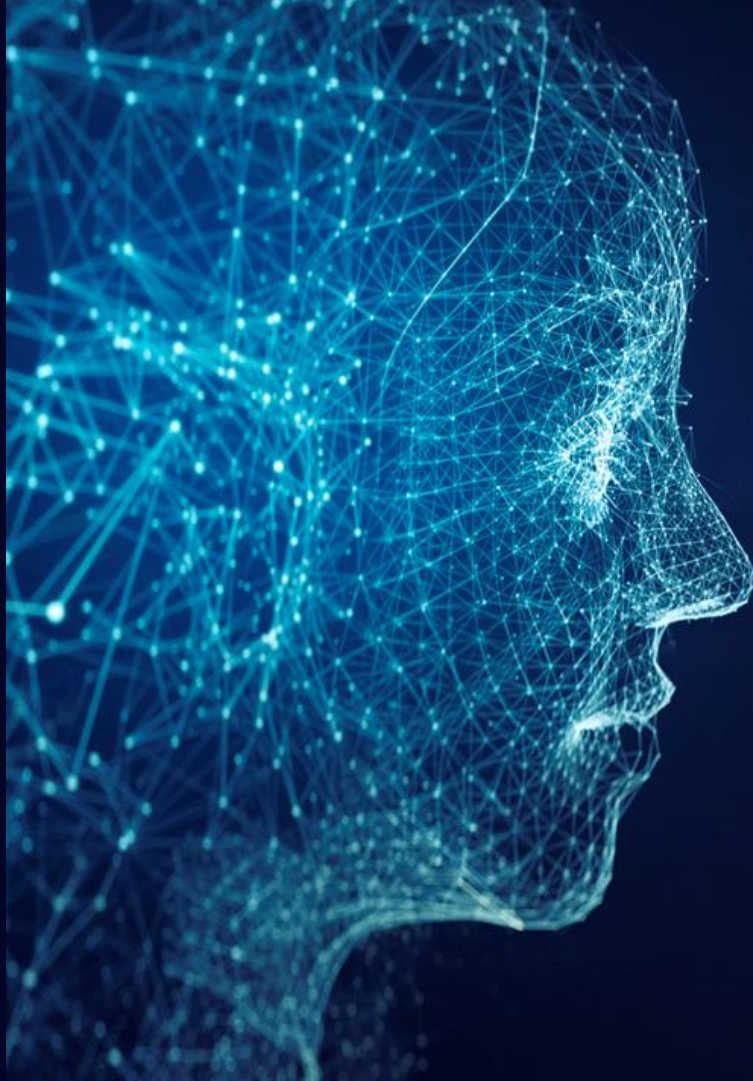


For performance and regulatory risks, Munich Re has a comprehensive solution offering for varying risk levels.

CertAI

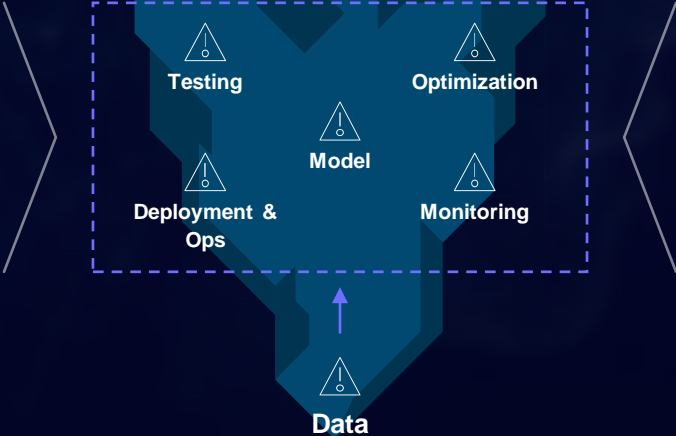
TrustworthyAI
assessments and
quality seals

03



AI quality

Performance Risks



European AI Act

Regulatory Risks



CertAI standard – compliance requirements combined with industry best practice as the guiding principle to reduce risk

Published works by different players

| | | | | | |
|---|---|---|--|---|---|
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  | |  | | |
| <p>Legislators</p> | <p>Standards Organizations</p> | <p>Regulatory Agencies</p> | <p>Interest Groups</p> | <p>Business (AI Developers)</p> | <p>Research Centers</p> |



Our Standard

Working with legislators



Incorporating standards



Implementation focused



Gained validation and prevention

The screenshot shows the 'AI Governance Seal' assessment tool interface. At the top, the 'CERT-AI' logo is on the left, and navigation icons (search, settings, help, user) are on the right. The main header displays 'AI Governance Seal' with a status indicator 'In Bearbeitung' and a progress bar showing '33 %' and a 'Senden' button. Below the header is a 'Übersicht' (Overview) section. On the left, there is a 'Roles' sidebar with a list of categories: Management, Developers & Data Science, Cyber Security & Systems, Legal, Social, Compliance, and Operations. Below this is the 'CertAI Standard' section, which includes a checkbox and the 'CERT-AI Governance' logo. The main content area features five assessment cards, each with a progress bar and an arrow icon: 'Pre-Assessment' (1 von 5 Fragen beantwortet), 'Risk and Quality Management' (5 von 44 Fragen beantwortet), 'Robustness' (14 von 49 Fragen beantwortet), 'Essential' (2 von 48 Fragen beantwortet), and 'Product Security' (1 von 1 Fragen beantwortet).

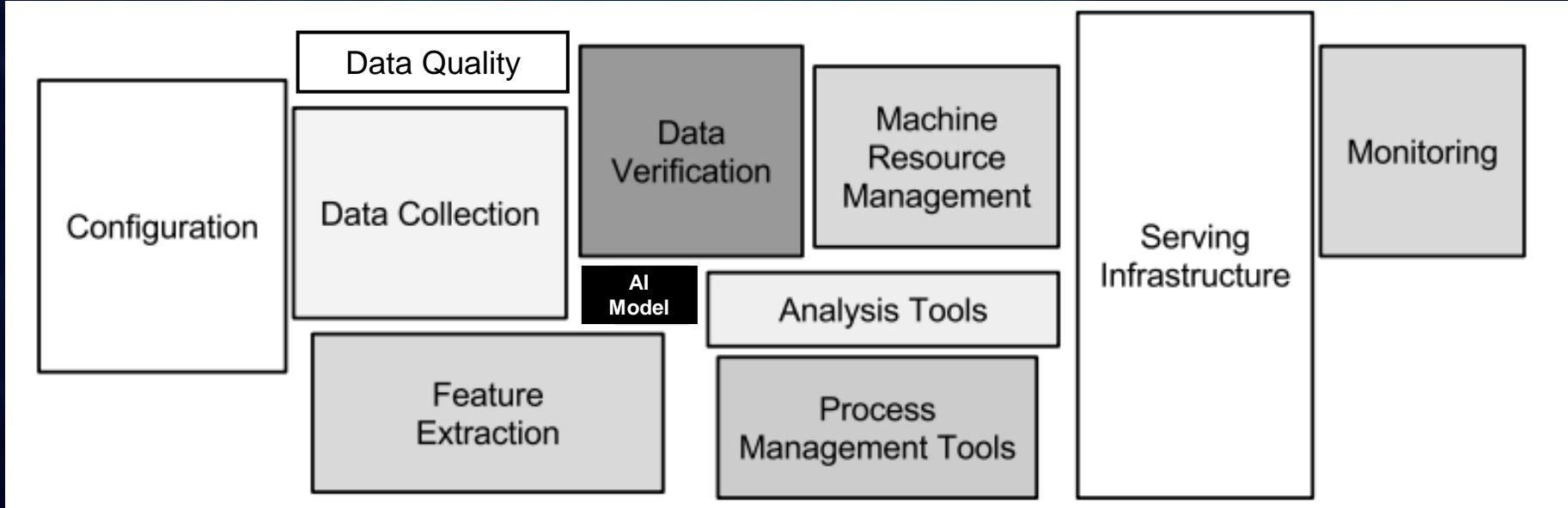
Quality seals will give trust for important stakeholders

Saves time in stakeholder management.
Boost the reputation of AI teams.



Why two different assessments and seals?

Risk can come from the AI model, but also from AI governance



CertAI Expert Seal

Governance + use case specific

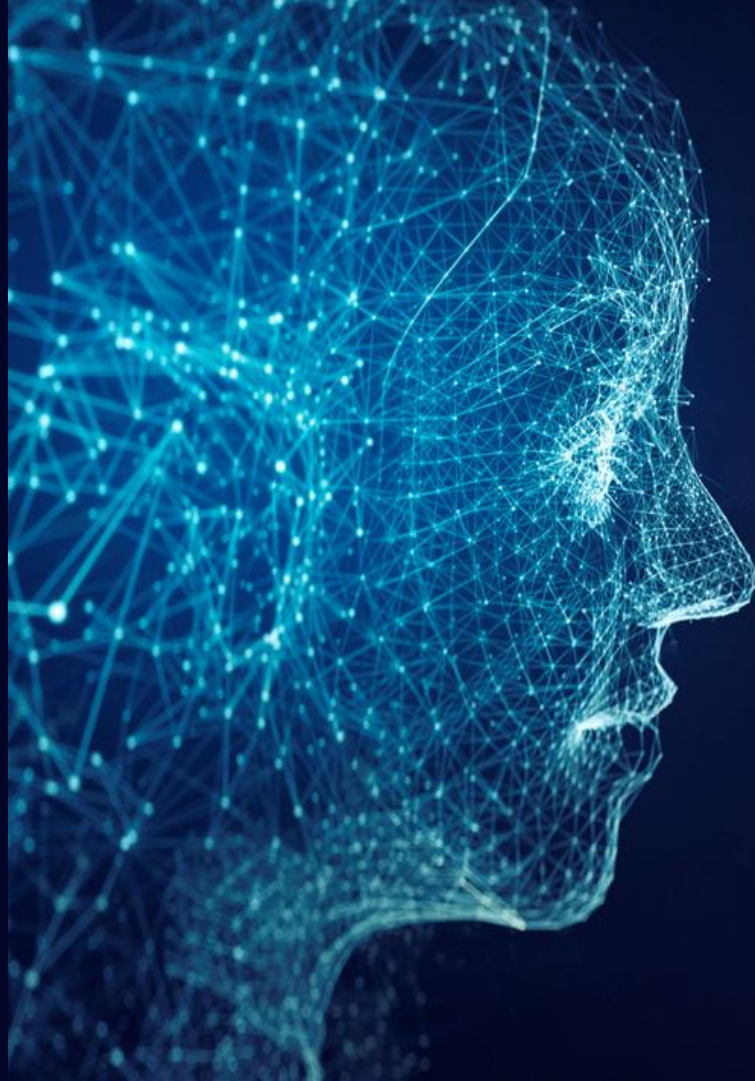
AI models/product



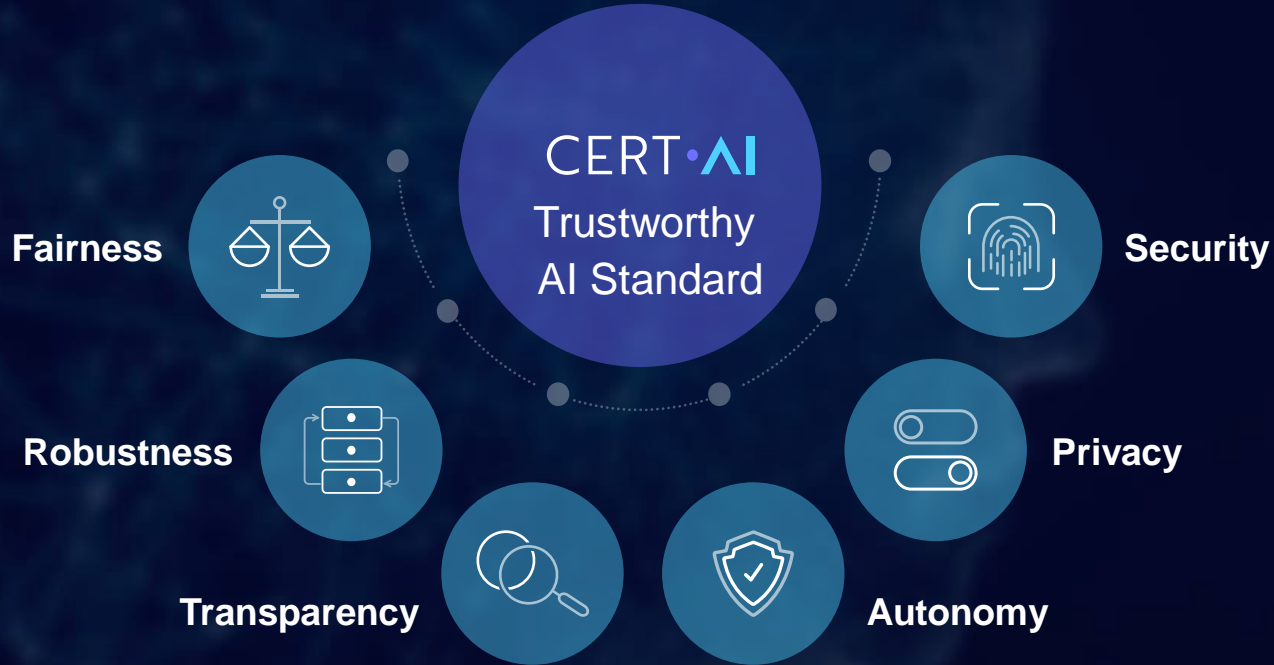
| | | Trust AI Governance Seal | Trustworthy AI Expert Seal |
|---------------------|---|--------------------------|----------------------------|
| Focus | Duration | 1 week | 4 weeks |
| | End-to-end AI processes | ✓ | ✓ |
| | Governance | ✓ | ✓ |
| | IT infrastructure, processes and skills | ✓ | ✓ |
| | Roles & Responsibility | ✓ | ✓ |
| | Risk Management | | ✓ |
| | Use case specific | | ✓ |
| | AI Model Deep Dive | | ✓ |
| Deliverables | Risk heat map | | ✓ |
| | Expert report | | ✓ |
| | Mitigation Recommendations | Focused | Comprehensive |

Example of CertAI
assessment for
Insurance use case

04



6 dimensions of TrustworthyAI – focus is use case specific



Use case



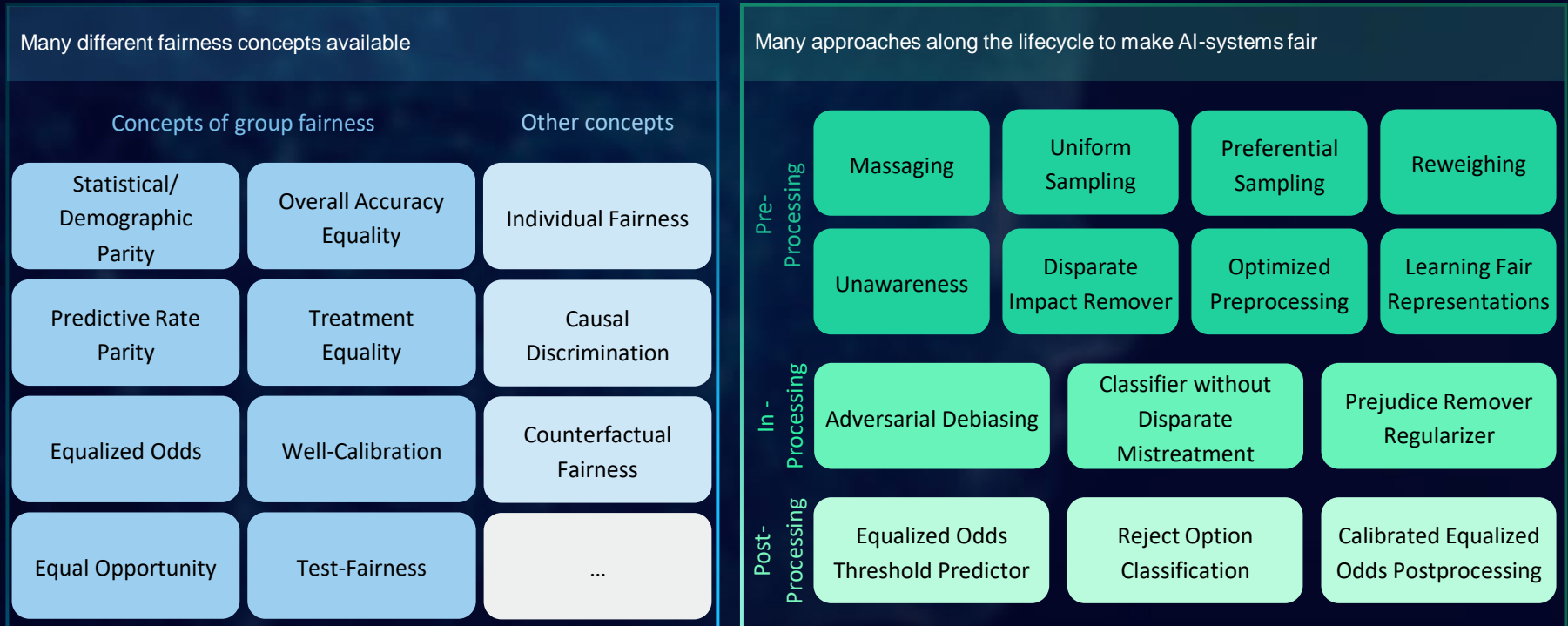
Claims management – Recommender System

- 1) AI is checking claims documents for anomalies
- 2) no anomaly detected => automatic payment
- 3) anomaly detected => routed to human

IMPORTANT: the AI does not reject claims automatically => it is routing claims

TrustworthyAI assessment: Focus Fairness dimension

The Fairness dimension in detail



References: For an overview of fairness metrics see e.g. Verma et al., Fairness definitions explained, FairWare '18: Proceedings of the International Workshop on Software Fairness, 2018, <https://dl.acm.org/doi/10.1145/3194770.3194776>

Bias



- Are we only using **personal data that can be justified** (e.g., age for health insurance)?
- Did we check for **unconscious bias** that the AI might have picked up? (e.g., correlation income - use of medical services - race)
- Are we using the **latest tools to measure potential bias** in our data?
- Do we regularly check for bias due to **changes in real life data**?

Human Interaction



- Will a **human take over** if the AI is not sure about a result? Do I know if AI is unsure?
- Do I **communicate** enough to the **users** that AI is being used?
- Do recommendations by AI systems **influence human decisions**?
- Are **edge cases** sufficiently sent to human decision makers?

Conclusion: Concrete steps of becoming compliant



Examine AI risk

What is the AI risk profile?
Where is AI in value chain?
What are our weak points?

2022 – Q1 2023

Identify risks with CertAI assessment

Request quality proof from your AI suppliers

Implement Trustworthy Governance aspects

Train your teams in TAI

2023

Close the gap

Review after EU AI Act is complete

Identify remaining risk delta from AI compliance

Utilise your already established governance and best practice frameworks

H1 2024

Compliance
EU AI Act



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Give AI businesses a boost

with Munich Re's AI Guarantee Insurance

May 2023



Confidence in AI lags

Companies expect AI to disrupt their industry in the next 10 years

78%

but do not have confidence in AI-based decisions and outputs

88%

We shoulder the risk and help to build up trust

Trust

Will the technology work?
Will it perform accurately over time
even in changing environment?



Performance

Will it create consistent results for the
specific situation?
What if it does not deliver?

aiSure enables AI Providers to secure their AI solutions with performance guarantees



The AI solution's performance is guaranteed.

If it underperforms, the customer receives a payout from the AI Provider.

Munich Re reimburses the payout.

Structured process steps lead to successful partnerships



¹ Time indications correspond to an approximate project period. The timeline can be shortened to approx. 3 months if set to high priority for both parties.

Successful Partnerships Across Verticals

E-Commerce Fraud

 **Fraugster**

Quality inspection for manufacturing processes

 **RELIMETRICS**

Cybersecurity

 **deepinstinct**

Insurance

 **kasko2go**

Social Media Content Moderation

 **spectrum labs**

Civil Infrastructure Defect Detection

 **DYNAMIC
INFRASTRUCTURE**

Battery Analytics

TWAICE

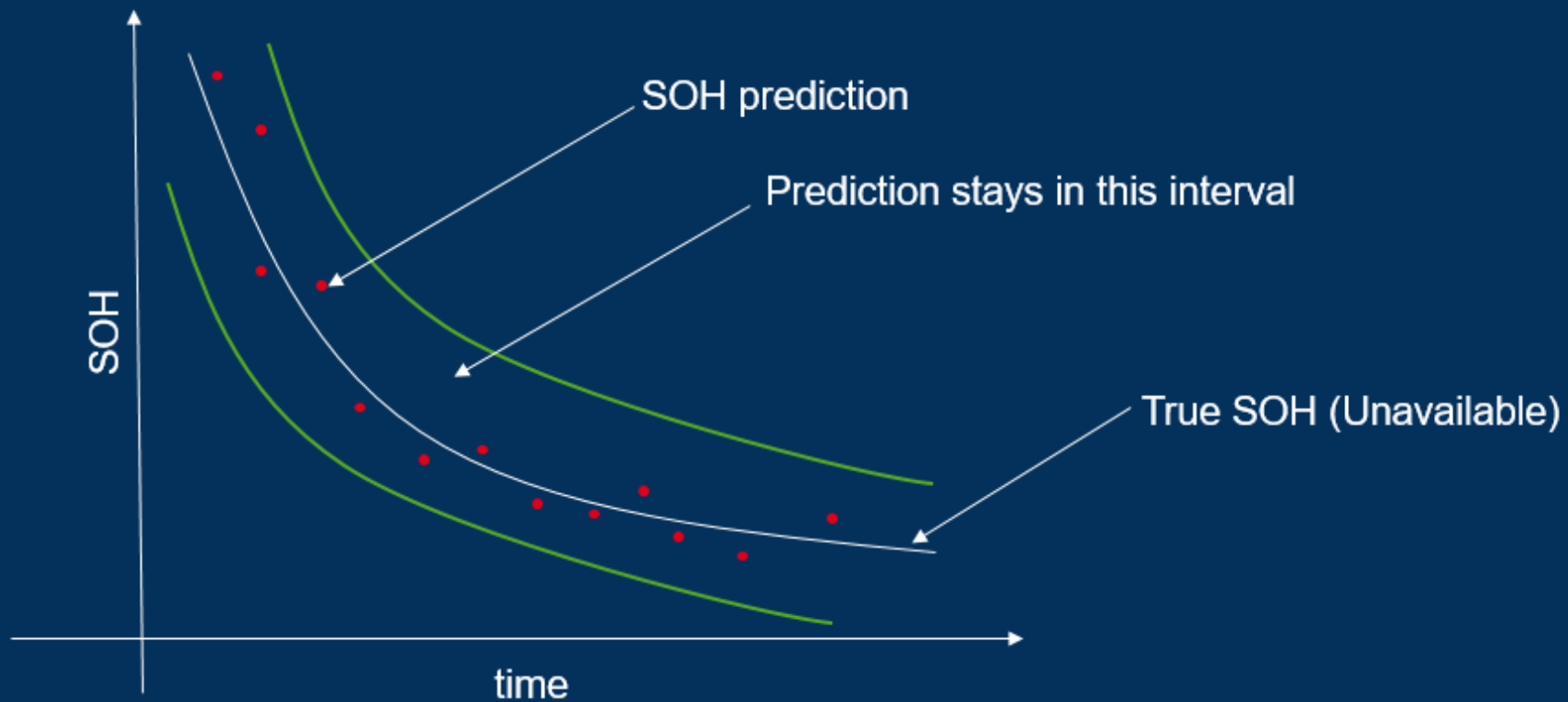
Compliance

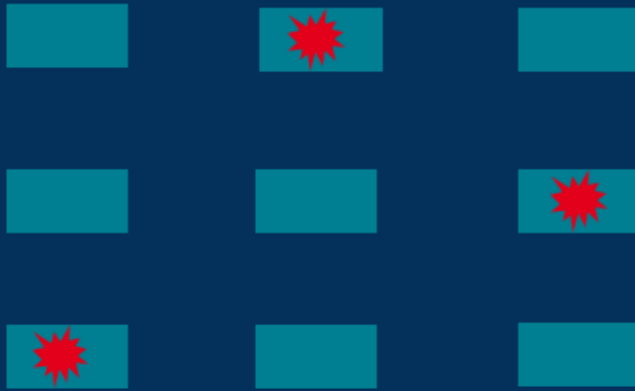
ASCENT

and many more.

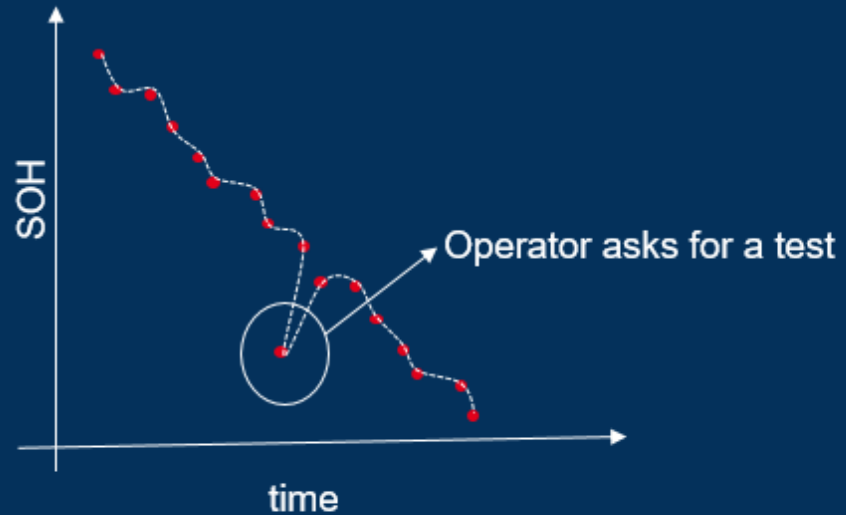
Find case studies at

www.munichre.com/insure-ai





Regular Testing

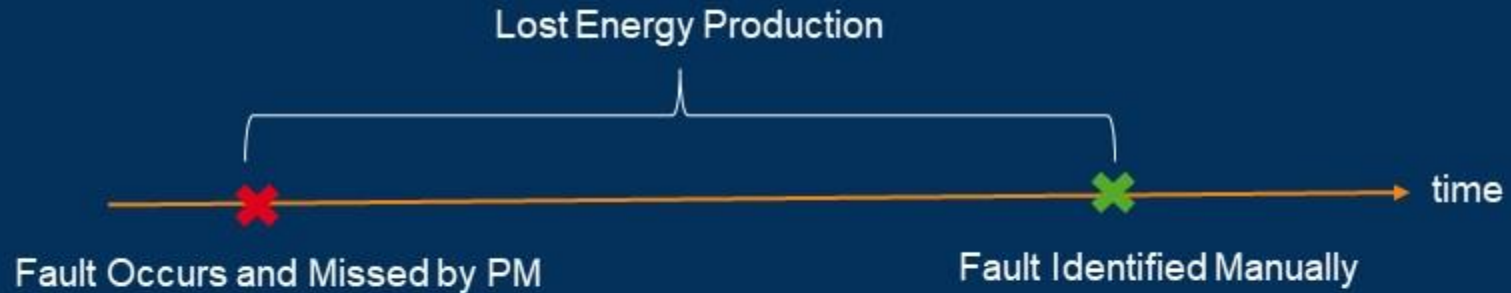


Random Testing

- Plants located at remote locations
- Human-based based maintenance expensive
- Collect data from the plant
- Train a model to identify shortfalls in energy production
- Shortfalls in energy production help in identifying defects

Coverage for Missed Detections and False Alarms

- Missed Detection Coverage for lost energy production



- False Alarm Coverage for operational expenses/business interruption

Enabling robust AI application to go to market faster

Based in
Palo Alto
and **Munich**

Partnership
with
Stanford
University

Backing AI
performance
guarantees
since 2018

Experience across
AI verticals and
technologies



www.munichre.com/insure-ai

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Case Studies and more material: www.munichre.com/insure-ai

What partners think about us

“With this third-party validation, civic managers and engineers can finally rely on fully-insured technology for confidence that no critical crack, spall, erosion, or any other risk factor will catch them off guard.

Munich Re conducted its due diligence on our solution's AI algorithm, and their backing is a gamechanger to increase certainty for our customers – unique in our sector.

Dynamic Infrastructure
Saar Dickman
CEO

“Munich Re's independent validation of Spectrum's AI will give customers additional peace of mind that our technology works as promised.

Raising the bar for Trust & Safety systems in this way is critical for our success.

Spectrum Labs
Justin Davis
Co-founder and CEO

“We are offering a level of protection for our customers that goes beyond anything on the market today.

Deep Instinct
Guy Caspi
Co-founder and CEO

“One of the driving factors in founding Ascent was to provide our customers with a platform that makes it easier and less expensive to do the right thing in following their regulatory requirements and managing regulatory change.

This exciting agreement with Munich Re Group provides further validation for that notion.

Ascent
Brian Clark
Founder & CEO

Our independent validation increases trust and safety

| | Fraugster | Deep instinct | Spectrum Labs | Ascent |
|----------------|--|---|---|---|
| Profile | Berlin-based <u>startup Fraugster</u> uses AI to prevent fraud in e-commerce | Israeli <u>startup Deep Instinct</u> uses AI to prevent cyber attacks | US-American company spectrum labs uses AI to make the Internet a safer place | Automation of new regulation review and assessment |
| Business Model | The service is used by online vendors across industries | AI Approach to stop ransomware and other malware using a deep learning cybersecurity framework | Technology that helps companies recognize and respond to harmful behaviors and toxic content online | The service is used by corporates Challenge: What if a regulation is missed and the client is fined? |
| Solution | Munich Re backs the detection guarantee covering chargeback costs | Munich Re backs the guarantee to prevent ransomware attacks. In case of a breach, costs are indemnified | If Spectrum's solution doesn't work as expected, Munich Re will allow Spectrum to refund back to the client | Ascent's clients have a guaranteed performance backed by Munich Re |
| Benefit | Increased client trust and secured ROI for clients | Product differentiation | Sales enablement and shorter testing requirements for Spectrum's clients | Secured ROI for clients |

