Artificial Intelligence

What are the key features of artificial intelligence (AI)? How will AI affect the insurance value chain and which issues arise as a result?
Introduction
Brains: Yesterday, today and tomorrow

Work = Force * Distance

Power = \frac{\text{Work}}{\text{Time}}
Competition of Brains
EU Guidelines on Ethics in Artificial Intelligence

- Priority for human action and human oversight
- Technical robustness & safety
- Privacy & data protection
- Transparency
- Diversity, non-discrimination & fairness
- Social and ecological well-being
- Accountability

Men to master machines
Autonomous Driving
**Use Case: Autonomous Driving**

Car insurance with accident & breakdown cover

<table>
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<tr>
<th>InsurTechs</th>
<th>Manual/Semi-automated Processes</th>
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<tr>
<td>• Research &amp; analysis</td>
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<tr>
<td>• Identification of new target markets</td>
<td>• Product development &amp; policy outline</td>
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<td>• Pricing</td>
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<tr>
<td>• Analysis &amp; restructuring of policy portfolio incl. termination</td>
<td>• Product oversight and governance</td>
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<td>• Identify &amp; create sales opportunities via geo-tracking, cross-selling etc.</td>
<td>• Identify &amp; create sales opportunities via personal, written and electronic channels</td>
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<td>• Predict the customer's insurance needs and propose adequate products</td>
<td>• Counsel the customer on insurance needs &amp; terms of insurance</td>
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<td>• Risk assessment of insurance proposal</td>
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<td>• Individual pricing for small-scale proposal in high volume</td>
<td>• Individual pricing (for large-scale or specialized proposals)</td>
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<td>• Policy issuance or declination of proposal</td>
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<td>• Processing of changes to personal data, prolongation and cancellation initiated by the customer</td>
<td>• Policy administration incl. prolongation, change of personal data, cancellation</td>
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<td>• Chat bot for information on terms of insurance</td>
<td>• Information on terms of insurance</td>
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<td>• Claims prevention (e.g. warning of bad weather)</td>
<td>• Complaints processing</td>
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<tr>
<td>• Detection of accident (in case of telematics)</td>
<td>• Collection of premiums incl. delay of payment</td>
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<td>• Verification of coverage</td>
<td>• Collection of premiums</td>
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<td>• Fraud detection</td>
<td>• Claims payments</td>
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<td>• Call for police (if necessary)</td>
<td>• Endorsement of recoveries</td>
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<td>• Order of nearby garage / tow-car</td>
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<td>• Reserving</td>
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Key Issues
«As an insurer, it is a necessity to use AI now and in the future to provide our customers an efficient and personalized customer service according to their needs and mitigate and prevent risks for them. However, AI will never replace humans: AI can assist employees by automating manual tasks and by helping them to take better decisions and, thereby, enables employees to focus on cases that require personal and individual interaction.»
Governance & Risk Management – Key Issues

Digital Sales

- Cooperation with InsurTechs as licensed brokers
- Joint product development
- Automated distribution, underwriting, premium collection processed by InsurTech
- ROLAND as risk carrier and claims handler
- Contact with customer only upon claims notification

Claims

- Handling of specific claims types via automated routines
- Classification of type – extraction of information – collection of individual policy data – verification of claim – handling of claim
- In-house development

Business Intelligence Competence Centre

- Implementation of new Data Warehouse and creation of a corresponding data lake
- Enabling of data mining
- Configuration and analysis of web crawler
- Basis for all future initiatives regarding automation and artificial intelligence

Artificial Intelligence

Current application and further prospects at ROLAND
Artificial Intelligence
A risk management perspective

Underwriting Risk

- Pricing
  - Data availability vs. data utilization: impact of misunderstood correlations on fallacy risk
  - Systematic underrating of premiums

- Reserving
  - Erroneous claims decision
  - Inadequate IBNR/IBNS due to false individual claims reserve

- Group of policyholders
  - Customer analysis and segregation enables the creation of homogenous risk groups

Operational Risk

- Organizational and operational structure
  - Definition and documentation of roles, responsibilities and processes

- Internal Control System
  - Control and traceability of activities and decisions
  - Provision of complete audit-trail

- Business Continuity Management
  - Breakdown prevention for hard-/software failure

- Information Security
  - Integrity, availability, confidentiality, authenticity

- Outsourcing
  - Know-how: transfer or barrier?
  - Dependency on the supplier
Product Liability & Insurance Cover – Key Issues

AI Liability

### Subject

1st Question
- Liability Allocation

2nd Question
- Nature of Liability

3rd Question
- Insurance Implications

### Matters under Consideration

1st Question
- Manufacturer (also part manufacturer, programmer)
- Owner/Operator/User
- Person Involved in Maintenance
- [Robot]

P.: Hierarchy of Claims; Joint and Several Debtors; Internal Settlement; Regress Chain

2nd Question
- Strict Liability vs. Absolute Liability vs. „Normal“ Liability
- Market Share Liability

3rd Question
- Mandatory Insurance
- Compensation Fund
- Distribution Agreement
Data Protection – Key Issues

Relevant Artificial Intelligence (AI) transformation areas (with insurance providers) include:

**AI** = highly data-driven technology

**Personal Data** [information relating to an identified or identifiable natural person (‘data subject’)]

AI and the protection of personal data are intertwined [subject to the General Data Protection Regulation (GDPR)]

«Data is both a blessing and a curse, and insurers have an obligation to carry out appropriate useful data preparation as well as regulatory conformity handling as regards operational, reputational, strategic, and regulatory risks» (Risk and compliance implications of AI in the Insurance Industry, M. Salchegger, T. Wiedenmann and P. Widemann, Deloitte)

https://insidenow.deloitte.lu/risk-compliance-implications-ai-insurance-industry/article/
Data Protection – Key Issues

An illustration of Relevant interaction (between AI use & gdpr provisions)

Lawful basis for processing (conditions for consent)

Some of the principles

- **Lawfulness, Fairness and Transparency**: Personal data shall be processed lawfully, fairly and in a transparent manner in relation to the data subject.

- **Purpose Limitation**: Personal data shall be collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes.

- **Data Minimisation**: Personal data shall be adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed.

**Consent**
The data subject has given consent to the processing of his or her personal data for one or more specific purposes.

**Contract**
Processing is necessary for the performance of a contract to which the data subject is a party or in order to take steps at the request of the data subject prior to entering into a contract.

**Legal Obligation**
Processing is necessary for compliance with a legal obligation to which the controller is subject.

**Legitimate Interest**
Processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party, except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of personal data, in particular where the data subject is a child.

Source: [https://www.i-scoop.eu](https://www.i-scoop.eu)
Data Protection – Key Issues

An illustration of relevant interaction (between AI use & GDPR provisions)

Privacy by Design
Privacy by Default

Respect the right of the data subject

Data Access and Portability

Automated individual decision-making
(and right not to be subject to decision based solely on automated processing)
Data Protection – Key Issues

An illustration of relevant interaction (between AI use & GDPR provisions)

Automated individual decision-making

(and right not to be subject to decision based solely on automated processing)
Discussion
Claims Handling – Discussion Points

• Which technologies does Zurich use to foster its claims process?
• How do you assess customer behavior and AI acceptance?
• Are there differences depending on countries/customers/cultures?
• What is the relationship with InsurTechs like today (disruption vs. cooperation)?
• In what areas might AI be beneficial and deployed in claims over the next 5 years and are there limits from an operational perspective?
Governance & Risk Management – Discussion Points

• From a governance perspective: what will change if AI becomes part of the insurance value chain?

• What are the options when setting up an effective and efficient control system for AI?

• Could outsourcing help with providing separate functions in that matter? What are the opportunities and constraints when outsourcing to Insurtechs or BigTechs?

• Do regulators actually provide useful requirements and tools to deal with new developments? Is further AI regulation to be expected?
Product Liability & Insurance Cover – Discussion Points

• When considering Level 3 and Level 4 driving, does AI require changes to the concepts as set out in the Vienna Convention on Road Traffic?

• Do the rules of the Products Liability Directive suffice to address the risks of autonomous cars, i.e. unbundled software, b2b claims?

• Is there need for a strict liability concept to cover AI and (mandatory) insurance coverage? What may the impact be on innovation and the product design of insurers?

• Which other liability concepts are conceivable and what might an ongoing duty to test and monitor AI look like?

• In an increasingly connected world, parties designing or offering AI are more likely to become subject to joint liability at first instance: how might this impact insurers' partition agreements?

• When does AI produce a “wrong” result and how can this be proven?
Data Protection – Discussion Points

• How does AI affect the concept of data ownership (controllers, joint-controllers and processors)? Is co-ownership an appropriate concept? Is it clear who will respond to customers’ data protection rights?

• Which preparatory actions must insurers and their service providers take when mining data to ensure that they properly use personal data for AI purposes? How will the insurer match its AI uses with the GDPR principles of purpose limitation, data minimization and accountability?

• How do the GDPR principles “privacy by design” and “privacy by default” affect the design and control of AI?

• Are there cases where AI may turn anonymous or pseudonymous customers into identifiable ones?

• Do GDPR requirements on automated decisions provide for a balanced approach between innovation, efficiency and data protection?
Conceivable approaches to control AI

- Codes of conducts
  - Super codes
  - Ethical guidelines
- On-going assessment
  - Industry certificates
  - Mandatory audits by regulatorschartered accountants
- Risk management systems
- Enhancement of existing legal concepts
- State intervention, as discussed for "information intermediaries"

Impacts on the insurance value chain
The challenge will go on!
Dr. Kai Goretzky is a counsel in our Frankfurt office and leads the insurance team. A focus of his practice is the digitization of the insurance industry. He has focused on insurance contract law, intermediary law and supervisory law, as well as the specific compliance issues of the insurance industry for more than twenty years. He advises international clients on entering the German insurance market as well as small and medium-sized insurers under Solvency II. In addition, he advises banks and funds on specific insurance topics and has experience in insurance-related M&A transactions.
Thank you

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