# Cognitive Compliance

**Digitalization for legal conformity**

## Challenge

The logistics and production departments of a company have to face increasing compliance requirements. The adherence to different laws, guidelines, administrative regulations as well as ISO requirements is indispensable, since non-compliance with these can result in high fines and criminal offences. In addition, disregarding growing customer requirements leads to a loss of orders, damage to reputation and thus to dissatisfaction for all parties. These developments challenge many companies from the industrial sector with a multitude of complications. What is more, many companies lack the necessary overview of legal and regulatory requirements as well as expert knowledge and hence struggle with deriving clear instructions for action for their own use case. In addition, companies often have to spend a lot of time and effort into manually entering and evaluating data in order to comply with legal requirements.

### Vision

The objective of cognitive compliance is to create decision support systems up to autonomously acting systems for a legally compliant operation. For this purpose, a self-learning system is to be developed by using Internet of Things (IoT) devices and the evaluation of digital impulses with the help of artificial intelligence. This system enables the early detection of violations of compliance and may initiate preventive measures in the form of recommended actions. In addition to saving manual effort, another advantage is the system's complete, transparent verification and traceability. On this basis, legal security is guaranteed within the company.

### Research objectives

- linking data and legal requirements
- evaluation and selection of sensor technology and middleware for recording compliance relevant data
- risk assessment: Identification of hazards through sensor technology, evaluation of the hazard situation
- determination of an information basis for the presentation and evaluation of legal requirements on digital legal representation

- transfer of data links to instructions for action using self-learnin

## Our services

- planning and conducting compliance audits to monitor legal requirements and obligations
- analysis of the relevant legal requirements and obligations for the defined processes or activities of the company
- evaluation of compliance with legal requirements and binding obligations
- presentation of the fulfillment status for compliance with legal requirements in a heatmap
- identification and development of recommendations for action

## Your benefits

- complete overview of relevant legal and regulatory requirements
- efficient instructions for compliance within your production and logistics, as well as along the supply chain
- secure and transparent verification of compliance data in production networks and supply chains
- effective and self-learning decision support system to ensure compliance with rules and legal certainty
- saving of manual effort

## Selected references

- **Industry partner:** company in the mechanical and plant engineering sector
  **Challenge:** evaluation of compliance with legal requirements and binding obligations within the framework of a compliance audit
  **Results:** legal conformity among others within an environmental management system (ISO 14001)

- **Industry partner:** company of the building materials trade
  **Challenge:** analysis of logistic processes, identification of legal requirements regarding handling of hazardous substances and dangerous goods, development of a

legally compliant hazardous substances and dangerous goods management system
**Results:** law-compliant hazardous goods processes and European legal conformity

- **Industry partner:** company for the production of fragrances and flavors
  **Challenge:** analysis of logistic processes, identification of relevant requirements (handling of dangerous goods), derivation of requirements for the logistic process especially for labelling and documentation-
  **Results:** legally compliant labeling processes for intralogistics (hazardous materials) and extralogistics (dangerous goods)

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