

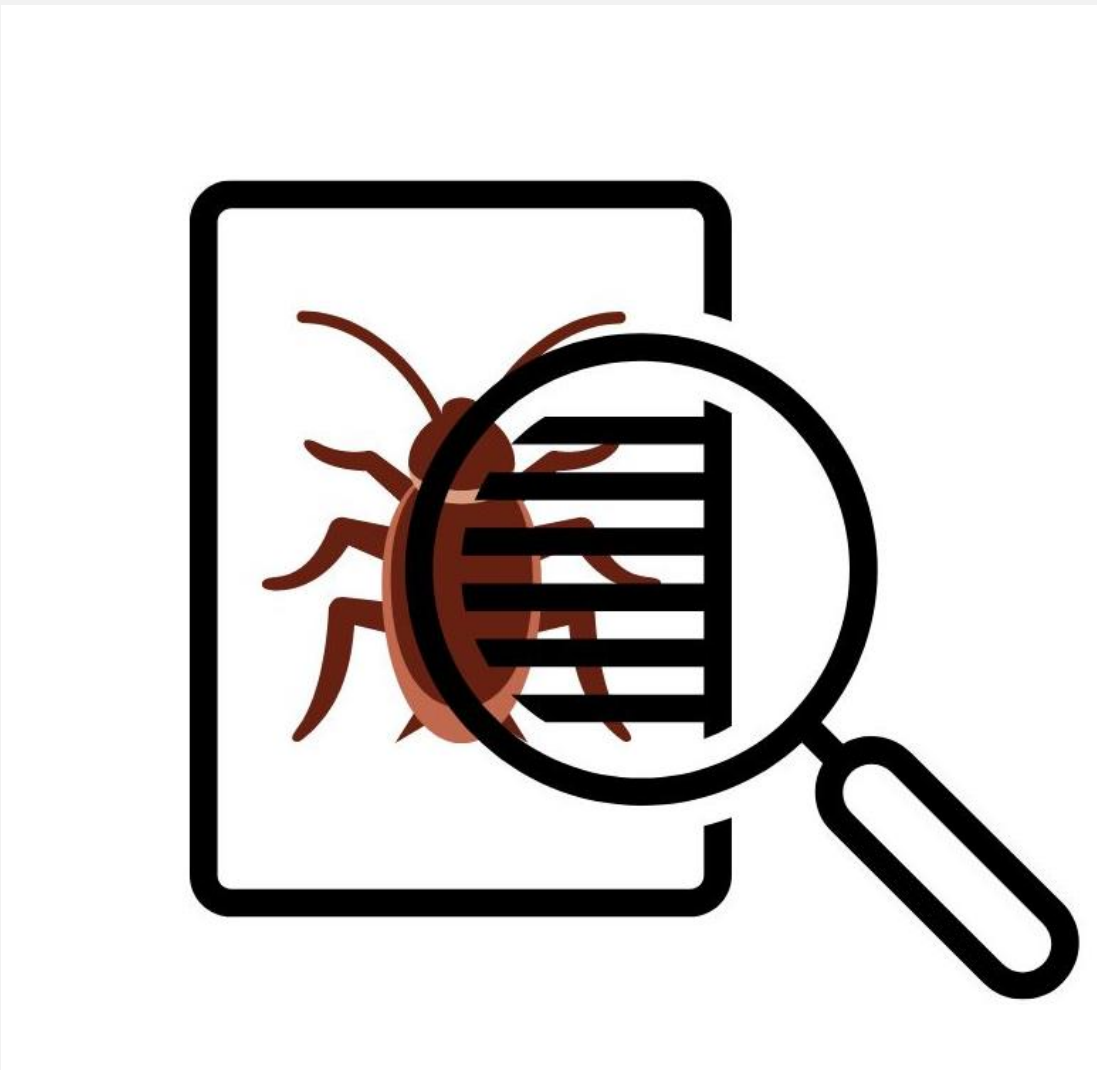


Digital Product Passport for Global Insect Supply Chain

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1| Transparency for Insect Supply Chain

- By 2050, the world population will overtake 9.7 billion people. Insects as an alternative animal feed is a key to solving the problem of increasing protein demand (Samir, K. C., & Lutz, W., 2017).
- The lack of information about the origin, quality and safety of insect products is a major obstacle to the growth of the market (Schlüter, Oliver, et al., 2017).



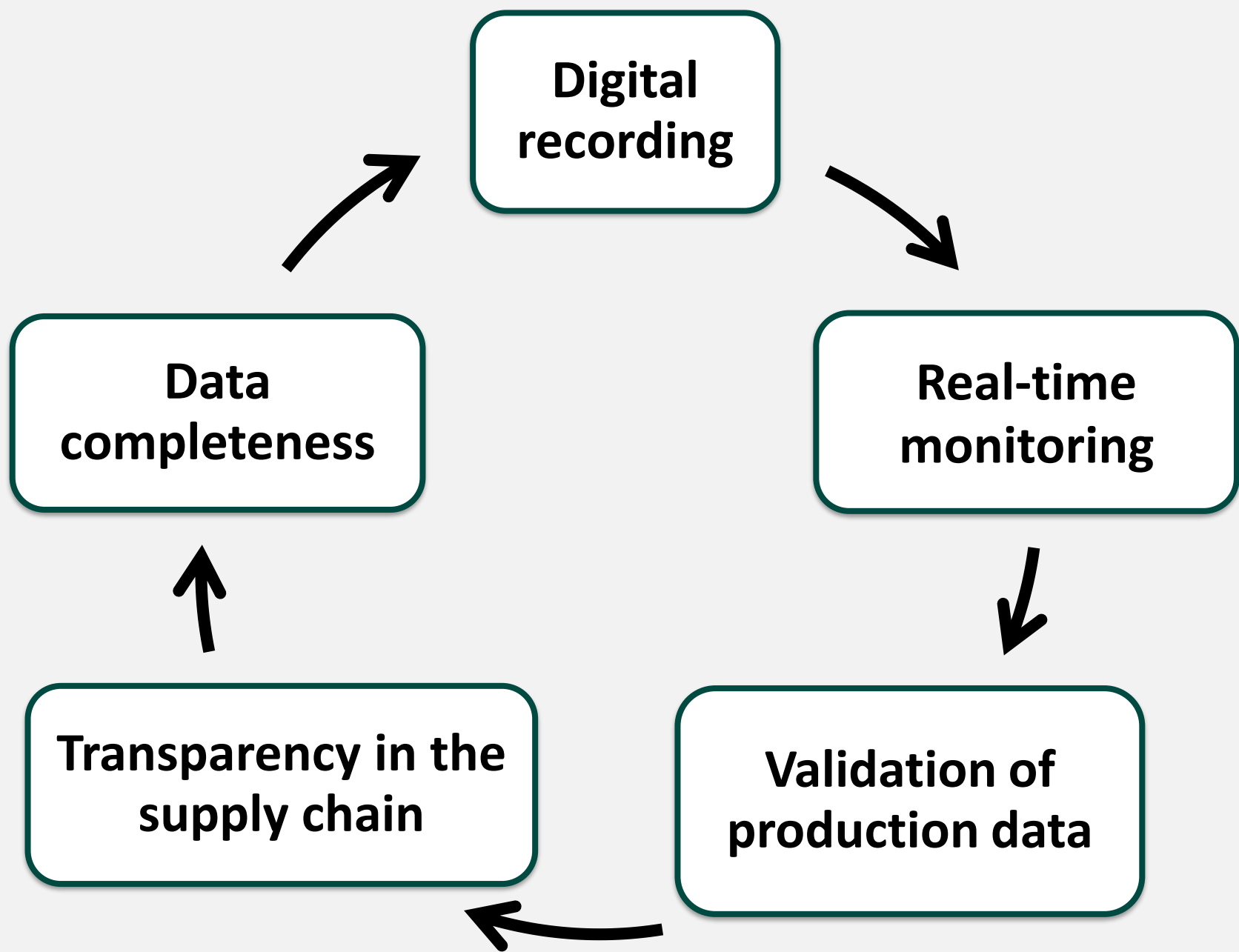
2| Potential to improve the transparency of the production process of insect protein

- The digital AI-supported and data-driven product passport makes it possible to trace the origin, feed composition and other quality aspects of insect products, which will increase the acceptance of insects

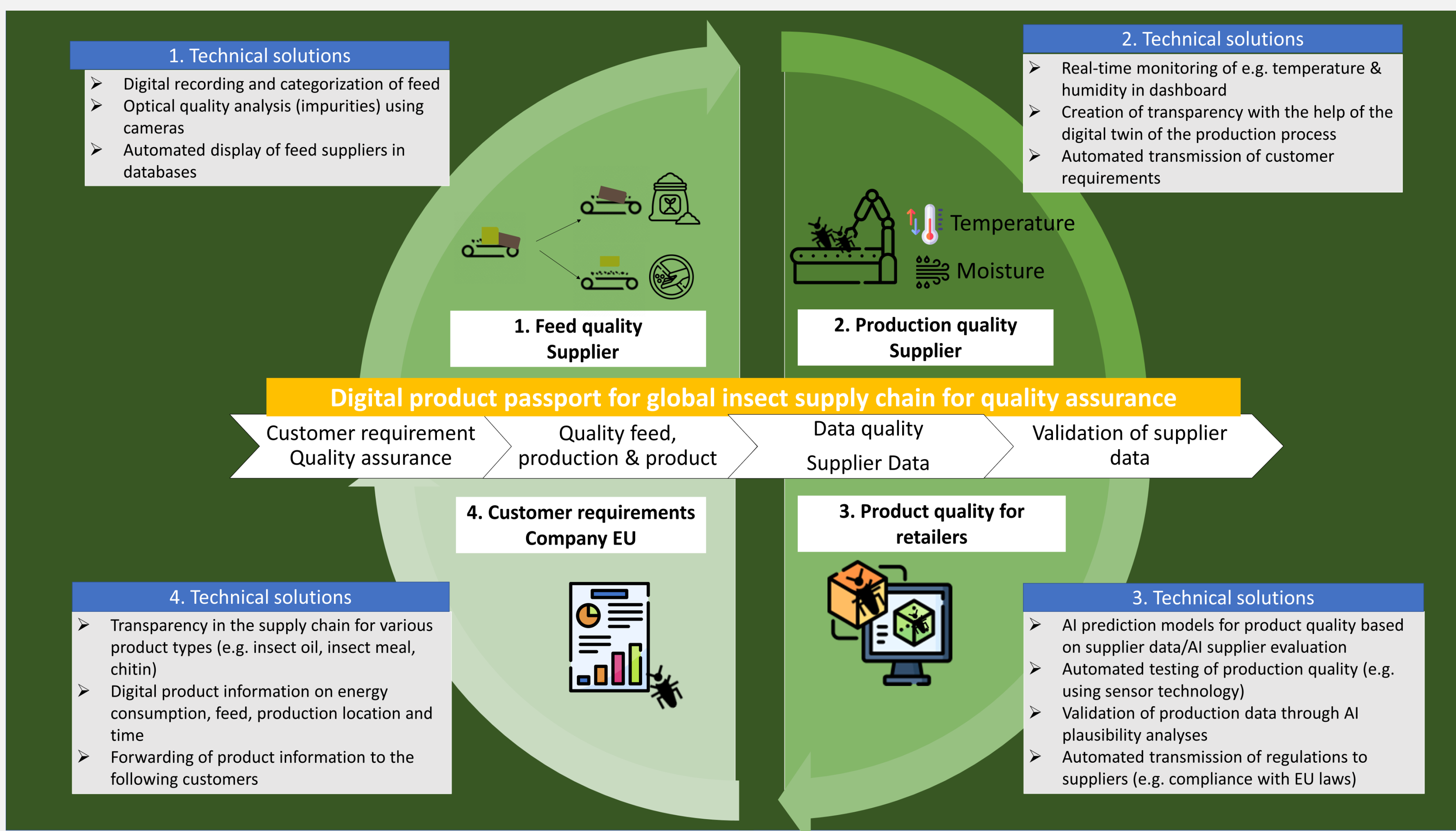


3| Product Passport as a problem solving approach enables:

- transparency and accessibility of information
- continuous improvement measures to achieve the climate goals of a company
- a process-specific proof of the environmental footprint toward the actors of the circular economy
- an exact allocation of the process-dependent environmental impacts at product level
- applicability for service providers and companies without production lines (Alt et al. 2023)

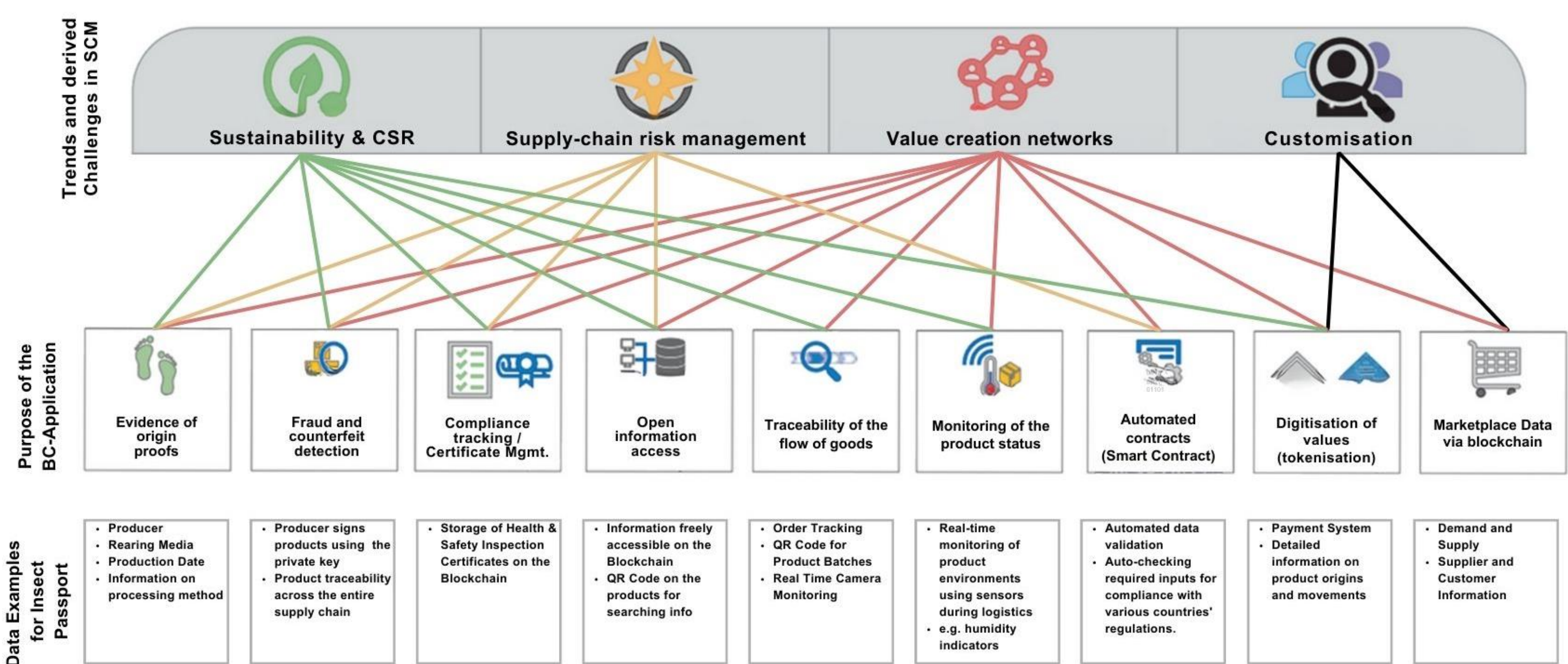


4| Digital Passport Data Acquisition System



5| Blockchain and Supply Chain in Digital Passport

Figure 1. «Blockchain and Supply Chain in Digital Passport». Adapted from Holschbach and Buss (2022). "Anwendungsmöglichkeiten und Limitationen der Blockchain-Technologie im Supply Chain Management" p. 37



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