

A Taste of the Future of Industry

Introducing a live secure technology data marketplace

The Challenge

The great promise of new connected concepts of industry like Industrie 4.0 is their ability to deliver a historically unparalleled level of responsiveness and flexibility. While modern supply chains are already heavily integrated and designed to be fluid and fast moving, a large swathe of manufacturing still remains beholden to economies of scale, large production runs, and careful pre-planning.

The Industrial Internet of Things is set to change this by allowing small-batch or even custom manufacturing on a truly industrial scale. With machines whose functions are not set in stone, but flexible and determined by their operating software and with a new form of connectivity bringing industrial engineers, product manufacturers, and end users closer together than ever before, ad-hoc adjustments to e.g. automotive parts during active product runs or the bespoke manufacturing of custom sneakers become very viable options indeed.

Much of this remains a theoretical vision, but IUNO, the German national reference project for IT security in Industry 4.0, demonstrates the new capabilities in action with a secure technology data marketplace running a smart drinks mixer.

The Solution

The IUNO demonstrator consists of two ends to the simulated supply chain: The technological data marketplace, where inventors of drinks can upload the recipes, and a cocktail mixing machine, which is connected to the marketplace and can license the encrypted recipes. The system uses Wibu-Systems' cloud-based CodeMeter License Central to protect the recipes, the production data that acts as a currency in this smart production network, with full encryption both when it is sent to the mixer and when the drink is made in the machine itself – whose inner workings are again secured with a CodeMeter dongle as anchor of trust and dependable proof of identity, powered by Infineon's SLM 97 security controller. On the front end, the drinks are mixed and ready for the buyer to enjoy.



The Results

The IUNO demonstrator is a template for a secure technology data marketplace that is both fully protected with Wibu-Systems' solutions and open enough to accommodate additional actors and vendors, the IUNO cocktail mixing machine becomes a model for a new paradigm in manufacturing. Where vertical integration once meant physical control and ownership over every link in the supply chain, it can now mean the integration of independent partners. Like the recipes, production data can be traded, licensed, and securely transported through the Industrial Internet to smart factories that offer manufacturing as a service. This creates new commercial freedom and access for sellers, buyers, and makers, all of whom can rest assured that their data is protected from theft, illicit use by more unscrupulous partners in the supply chain, or tampering along the way with the power of CodeMeter's licensing and protection capabilities.

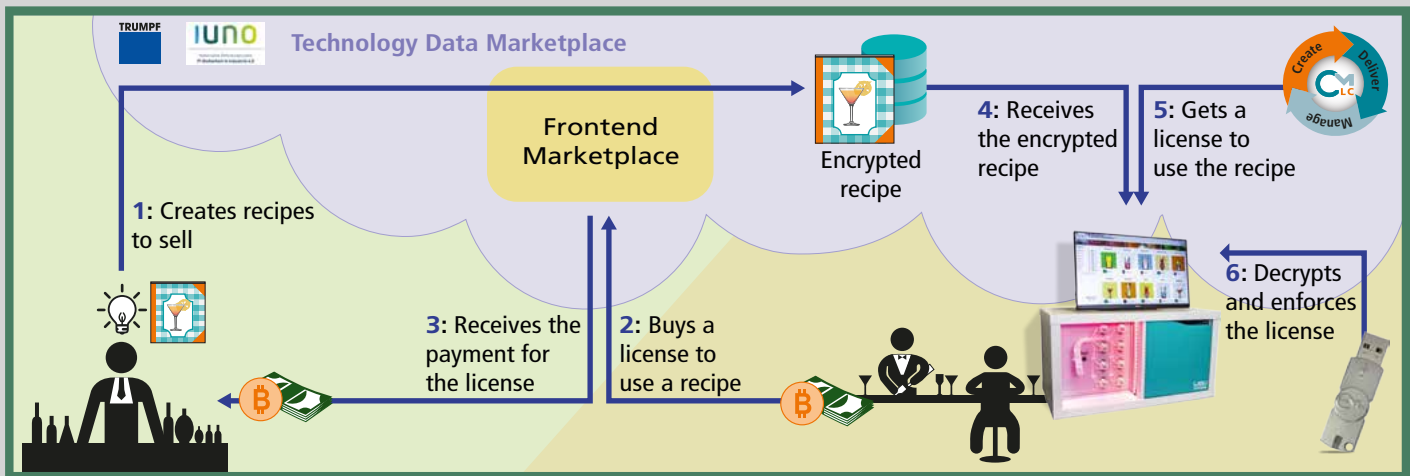
Breakthrough

Access to marketplaces and ownership over data are becoming the gatekeepers for participation in Industrie 4.0 – but neither can function without the level of protection afforded by Wibu-Systems' cloud-based technology.

A Chance to See Smart Custom Manufacturing in Action

The future of industry is connected, intelligent, responsive, and customized. With concepts like Industrie 4.0, we have a roadmap and a vision to follow. The protocols for machine communication and new HMI interfaces are available and continue to be refined. From the new data infrastructure to the industrial machines on the ground, the hardware is being rolled out, in upgraded and retrofitted brownfield installations or completely new greenfield sites. Industrial engineers and the operators of their products on the ground have also begun to take the threat of cyber-criminality seriously and are investing in protection and licensing capabilities. Still, the opportunities to truly experience the Industrial Internet of Things and smart factories in action are few and far between.

and the Bitcoin transaction has been processed, the technology marketplace sends the order for the right recipe in fully encrypted form to the physical mixer, using Wibu-Systems' CodeMeter License Central, the cloud solution for license management, to do the heavy lifting of encrypting, licensing, and securing the operation. In the mixer itself, a CodeMeter dongle provides an anchor of trust for the protected operating software of the mixer and for the mixer's correct identity in its transaction with the IUNO marketplace, using an industry-grade Infineon SLM 97 security controller. At no stage in the supply chain can the recipe be read out or tampered with, neither in the cloud marketplace nor in its transmission or in the mixer itself. On top of protecting the IP



IUNO, the German national reference project for IT security in Industrie 4.0, is set to change this with a show-stopping technology demonstrator: a high-tech drinks mixer that showcases how a secure technology data marketplace can work as the front end of a smart, connected, and fully secured and licensed supply chain.

Developed in a multivendor project partnership including the IUNO members Wibu-Systems and TRUMPF, the drinks mixer works by combining a technology data marketplace – a repository of drinks that would-be vendors can add their favorite recipes to – with a secure data transmission concept and similarly protected front-end hardware. With a selection of recipes at the customer's disposal, the drinks are chosen from the custom-made sales platform at <https://iuno.axoom.cloud> and paid for by Testnet Bitcoin. Once the customer has made his or her selection

in the recipes, the CodeMeter technology is used to enforce the licensing for each recipe. Only the paid number of items (drinks in this case) can be produced. The encrypted recipe is worthless without the corresponding license which defines the amount of goods allowed for production. As in more regular manufacturing operations, the manufacturer of the technology (the mixer) and the vendor of the product (the recipe) – who could be one and the same or separate entities – can rest assured that their intellectual property is safe and sound.

The customer on the front end sees little of the intricate software and hardware that goes into making his or her drink of choice. Whatever drink the customer goes for, one thing is certain: the end result is more than a refreshing beverage. It is a taste of the future of industry.

About Wibu-Systems:

WIBU-SYSTEMS AG, a privately held company founded by Oliver Winzenried and Marcellus Buchheit in 1989, is an innovative security technology leader in the global software licensing market. Wibu-Systems' comprehensive and award winning solutions offer unique and internationally patented processes for protection, licensing and security of digital assets and know-how to software publishers and industrial manufacturers who distribute their applications through PC-, embedded-, mobile- and cloud-based models.

Wibu-Systems®, CodeMeter®, SmartShelter®, SmartBind®, and Blurry Box® are registered trademarks of WIBU-SYSTEMS AG.