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Edited by:
Lucrezia Songini, Mario Rapaccini, Giuditta Pezzotta,
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Università degli Studi di Bergamo
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The ASAP research centre on service management and innovation in industrial firms

ASAP is the Italian "Interuniversity Research Centre on Service Innovation and Management in Industrial Enterprises-ASAP SMF", founded by the Universities of Bergamo, Brescia, Florence, and Eastern Piedmont. ASAP is among the reference research institutions at the European level, on the subjects of servitization, service business and service operations management. It carries out research, training, workshops, and conferences, and promotes networking and dissemination. In the ASAP Community, university research groups, and companies collaborate for innovating service design and management, and change management for the strategic development of the "service business". In particular, the Centre aims to:

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The following persons have directly contributed to the preparation of this report through their testimonies: Gerard Albertengo (Jojob Real Time Carpooling), Luca Allorio (University of Eastern Piedmont), Gregorio Baisi (Caprari SpA), Stefano Butti (Servitly), Marco Camagni (United Machine), Giovanni Catania (Romana Diesel), Pasquale D'Uva, (Piedmont Region), Heiko Gebauer (St. Gallen University), Marco Gentileschi (Tetra Pak), Roberto Ionna (Piedmont Region), Massimo Isaia (Piedmont Region), Paolo Mauri (Angelo Po), Andrea Merati (Syncron), Beheshteh Momeni (Vaasa University), Giovanni Pucci (Prima Industrie), Patrizia Sansolini (Toyota Material Handling), Marco Toffolo (Electrolux Professional).

EXECUTIVE SUMMARY

The second day of the XXII ASAP Forum deepened the strategic understanding of servitisation by moving beyond tools and solutions to address **mindsets, coalitions, regulation, and risk**. Across four complementary sessions, Day 2 highlighted that servitisation maturity is less about isolated technologies or single business models and more about **long-term strategic coherence, collaboration across ecosystems, and organisational readiness to manage uncertainty**.

The opening keynote by **Professor Heiko Gebauer** reframed 25 years of servitisation research by challenging five widely held myths. His contribution stressed that servitisation should not be reduced to increasing service revenue shares, internal capability building, service portfolio expansion, or digital add-ons. Instead, empirical evidence shows that successful servitisation unfolds over long time horizons, often through **M&A strategies**, prioritises **service sophistication over mere extension**, and is tightly interwoven with product innovation. Digitalisation and servitisation emerged as mutually reinforcing dynamics rather than a linear cause–and–effect relationship.

The second session on "*Building coalitions for Mobility-as-a-Service*" demonstrated that advanced service models require **institutional, organisational, and behavioural coalitions**. Contributions from the **Regione Piemonte**, **Jojob**, and the **Università del Piemonte Orientale** showed that technological platforms alone are insufficient. Governance complexity, cultural resistance, fragmented responsibilities, and user habits represent the real bottlenecks. MaaS was framed as a socio-technical transformation in which incentives act as catalysts, not solutions, and in which wellbeing, trust, and coordination are as critical as apps and data.

The third session focused on "*Building coalitions: digital connected services to industrial assets*", combining academic framing with the **GreenBox** project. Research insights clarified how digital servitisation depends on managing **vertical, lateral, and horizontal collaborations**, supported by both structural mechanisms (roles, data governance, IPR, platforms) and relational mechanisms (trust, reciprocity, shared commitment). The GreenBox case illustrated how value emerges when OEMs retain ownership of domain knowledge while delegating software complexity to specialised partners. The case showed that digital servitisation succeeds when data are translated into actionable services, not when technology is pursued for its own sake.

The final session, **"Lights and shadows of servitisation"**, offered a pragmatic reflection on success factors and failure modes, drawing on the experiences of **Prima Power**, **Tetra Pak**, **Electrolux Professional**, and **Syncron**. While digital tools enable predictive maintenance, TCO optimisation, and advanced contracts, the session made clear that **pricing risk, customer maturity, regulatory incentives, and long asset lifecycles** can undermine "*as-a-service*" ambitions. Continuous profitability monitoring, data-driven cost prediction, and alignment between service strategy and customer reality emerged as non-negotiable conditions.

Overall, Day 2 reinforced a central message: **servitisation is a systemic transformation**. It requires **long-term vision**, **coalition building** across organisational and sectoral boundaries, robust **data infrastructures**, and **leadership** capable of navigating both the opportunities and the inherent tensions of shifting risk, responsibility, and value creation from products to outcomes.

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1. Session 1: Myths We Believed, Realities We Found: 25 Years in (Digital) Servitization

The second day of the FORUM (21 November 2025) opened with the keynote speech by **Professor Heiko Gebauer**, from the ***University of St. Gallen*** (CH) and visiting professor at Linköping University (SWE). Drawing on more than **25 years of research on servitisation**, Professor Gebauer presented his perspective in a keynote entitled *"Myths We Believed, Realities We Found"*, aimed at stimulating ideas and directions for future servitisation research.

Scientific knowledge on the **challenges, risks, and benefits of servitisation** is now well established, as is our understanding of its key enablers and capabilities. Two factors are undeniable: the **exponential growth of high-quality scientific publications with rigorous methods**, and the increasing ability to connect servitisation research with other major managerial themes, such as **sustainability** and **digitalisation**.

Over time, servitisation has spread well beyond pioneering companies such as **Rolls-Royce** with its *Power by the Hour* model and **General Electric** under Jack Welch. Today, servitisation has become almost an **industrial standard**, involving most large manufacturers of durable goods, particularly in B2B contexts, as well as their first-, second-, and third-tier suppliers, sales and service networks, system integrators, and technology vendors. Scientific research has also investigated servitisation in **small and medium-sized firms** across different geographical regions (Europe, Asia, and the United States), and in sectors beyond manufacturing, such as **energy and utilities**.

Despite this success, Professor Gebauer argues that achieving a **more profound and less simplistic understanding** of servitisation requires revisiting five myths that scientific research has implicitly generated.

Myth 1: Servitisation equals growth in service revenues

A first myth concerns the recommendation that companies with a high share of service revenues (e.g. more than 40% of total turnover) tend to outperform others. Consequently, the primary ambition of a manufacturing firm should be to increase the share of revenues generated by services, particularly intermediate and advanced services.

Reality, however, is more complex. Research shows that multiple **service growth patterns** exist, with no single dominant trajectory. What is certain is that service revenue growth is **not rapid**; it is instead a long-term process, typically requiring **5 to 15 years**. It is also essential to understand how service revenue growth relates to **total revenue growth**. In some cases, service revenues grow simply because the overall business grows; in others, service growth follows a significant expansion of the installed base, which then drives lifecycle service revenues, especially for **critical and complex assets**.

Professor Gebauer's analyses indicate that the dominant pattern, observed in over **60% of the analysed companies**, is one in which service revenue growth occurs **simultaneously and proportionally** with product revenue growth. In such cases, the service revenue share may remain stable or increase only marginally. This scenario does not imply a fundamental change in the business model or in the value-creation logic, which remain largely **product-centric**.

Examples such as **Wärtsilä**, **Atlas Copco**, and **Cisco** show that a significant increase in service revenue typically emerges only after many years of overall business growth across both products and services. The focus, therefore, should not be solely on increasing the share of service revenues, but on **how this growth occurs**, whether in conjunction with or at the expense of product revenues.

Myth 2: Servitisation is based on the development of internal capabilities

The servitisation literature (nearly **80% of scientific articles**) emphasises the development of new internal service capabilities through organic growth. Reality suggests that **acquisitions and M&A activities** often play a decisive role in increasing service revenues.

In the previously mentioned successful cases (Wärtsilä, Atlas Copco, Cisco), the sharp increase in service revenues, from around **20% to approximately 35% of total turnover**, has often been driven by **continuous acquisitions of service and software companies**.

These findings suggest that to fully understand servitisation and service growth, greater attention must be paid to the role of **finance and M&A strategies**, rather than assuming that growth depends solely on internal capability development or the creation of new ecosystems and platforms.

Myth 3: Servitisation is about adding services to existing product offerings

Servitisation is often portrayed as the extension of a core product offering, gradually enriched with an increasingly broad portfolio of services and software. Services are typically classified as **basic** (e.g. spare parts and repairs), intermediate (e.g. maintenance contracts), and advanced (e.g. Service Level Agreement (SLA)-based contracts, pay-per-use, risk–reward sharing). More recently, **digital services** (remote monitoring, diagnostics, performance control) and software solutions (fleet management, analytics, simulation, and optimisation tools) have been added.

However, empirical evidence suggests a different reality: **service sophistication has a more substantial impact than service extension**. Research shows that revenue growth is driven more by **enhancing and refining existing offerings** than by simply adding new services or software.

Sophistication involves making existing offerings more advanced and customised—for example, moving from standard maintenance contracts to configurable contracts with differentiated SLAs. Similarly, acting as a **software system integrator customising and embedding solutions into** customer processes appears more effective than adding multiple standalone applications. Service and software sophistication thus emerge as a more critical success factor than portfolio expansion alone.

Myth 4: Servitisation benefits from digitalisation

The literature widely agrees that servitisation benefits from digital technologies such as **cloud computing, IoT, and AI**. While this is true, reality is more nuanced. Servitisation is **not only a beneficiary** of digitalisation; it is also **one of its key foundations**.

Highly servitised companies are often better positioned to **absorb new knowledge**, explore emerging digital technologies, and translate their adoption into **measurable results**. For example, **Salesforce**, which already offers its solutions through subscription-based services (SaaS), is integrating AI into customer relationship workflows, enabling customers to deploy AI agents with relative ease.

In short, digitalisation and servitisation are **two sides of the same coin**, both contributing to the development of more effective and high-performing business models.

Myth 5: Servitisation concerns only new services, digital services, and software

Servitisation research strongly emphasises innovation in services, digital services, and IoT-enabled solutions. While the growth of connected products is impressive—forecast to increase from around **USD 250 billion in 2024 to USD 400 billion by 2030**—this focus often overlooks the role of **product innovation**.

Professor Gebauer stresses that **product innovation remains central** to servitisation. Services should not be developed in isolation from product innovation; on the contrary, **hardware innovation often acts as a catalyst** for service, software, and IoT business development.

Two examples illustrate this point. **Volvo Trucks'** transition from diesel to electric powertrains is creating significant opportunities for new services, with service revenues expected to grow from **25% to 50% by 2030**. Similarly, **Airbus** has strengthened its strategic position through product innovations, such as the introduction of new aircraft models (e.g., the A380) and the renewal of existing ones (e.g., the transition from the A320 to the more fuel-efficient A320neo). These cases show how servitisation can strongly benefit from **product category expansion and renewal**.

Implications and conclusions

This analysis offers valuable insights for both researchers and practitioners involved in servitisation. Professor Gebauer's arguments help avoid **simplistic or partial interpretations** of the phenomenon. Traditional models often portray servitisation as a linear, organically driven evolution; in contrast, the evidence highlights **complex and interdependent dynamics**.

Key implications for research and managerial practice can be summarised as follows:

1. **Do not focus solely on service growth**, but on the joint growth of products and services, with dynamics that unfold fully only over long-time horizons (5–15 years).
2. **Recognise the role of finance**, as M&A activities often play a crucial role in servitisation processes.
3. **Prioritise service sophistication and customisation** over simple portfolio expansion, as this has a stronger impact on performance.
4. **View servitisation as a foundation for digital transformation**, enabling firms to exploit better, absorb, and measure the benefits of technologies such as AI.

Do not neglect product innovation, as both incremental and disruptive innovations can act as powerful catalysts for service-led business growth.

2. Session 2: Building coalitions for Mobility-as-a-Service

The XXII FORUM continued with a session dedicated to the creation of **coalitions for sustainable mobility**, a roundtable discussion exploring the importance of collaboration among **institutions, companies, and universities** in delivering advanced mobility services. **Professor Lucrezia Sonini** moderated the session from the ***University of Eastern Piedmont***. It featured contributions from **Pasquale D'Uva**, ***Head of Transport Planning and Digitalisation at the Piedmont Region***, **Massimo Isaia**, ***Mobility Manager of the Piedmont Region***, **Gerard Albertengo**, ***Founder and CEO of Jojob***, and **Luca Allorio**, ***Mobility Manager of the University of Eastern Piedmont***.

2.1 The perspective of the Piedmont Region

Dr D'Uva opened his contribution by presenting the **Mobility-as-a-Service (MaaS)** model, which he defined as an ecosystem built around a **multimodal "Super App"**. The objective is to enable users to plan, purchase, and monitor their journeys end-to-end, integrating not only public transport but also sharing systems and active mobility, with the aim of reducing private car traffic.

Dr D'Uva emphasised, however, that the challenge is not only technological but primarily one of **governance**. In the Piedmont Region alone, around **60 different actors** operate in public transport, in addition to taxi operators and sharing services authorised by multiple local authorities. He concluded by highlighting the role of **MaaS operators as aggregators**, required to manage complex commercial and administrative agreements to sell travel tickets. Although the *"MaaS for Italy"* project recorded the **highest number of users nationwide in Piedmont (around 30,000)**, adoption remains constrained by users' reluctance to download new applications and by the complexity of commercial agreements among the various operators.

Dr Isaia then continued the discussion by introducing the concept of the **transport ecosystem**, describing it as a highly complex system operating under **finite resources**. He shifted the focus from service policies to **mobility demand**, stressing that the mobility manager's role is to understand the **ultimate purpose of travel**. Isaia introduced the key concept of **"wellbeing"**, articulated in environmental, social, personal, and economic terms. He highlighted the severity of the social impacts of transport, noting that a road accident represents not only a human tragedy but also a major industrial and social loss due to the disappearance of skills and professional competencies. He concluded by arguing that **digitalisation and corporate welfare policies** should support demand identification through **home–work travel plans** to optimise existing mobility solutions.

2.2 The perspective of economic actors: the Jojob case

Dr Albertengo presented **Jojob**, a company that originated as a startup at the Polytechnic University of Turin and later became a **certified B-Corp**. He explained that Jojob's service focuses on **commuter carpooling**

(home–work and home–university) and currently serves more than **2.000 sites in Italy** with approximately **180.000 users**.

Dr Albertengo then offered a critical view of the Italian approach, which he described as **"urban-centric"** and characterised by a lack of incentives for **extra-urban mobility**, especially when compared with models adopted in France or Spain. In this respect, he stressed that carpooling is neither in competition with nor a substitute for public transport; instead, it should function as a **necessary complement** in peripheral or poorly served areas, helping users reach **interchange hubs** more effectively.

2.3 THE PERSPECTIVE OF THE UNIVERSITY OF EASTERN PIEDMONT

Dr Allorio opened his contribution by describing the role of the **University Mobility Manager** as one of coordination and relationship-building, responsible for managing the mobility of a **distributed community**. At the University of Eastern Piedmont, this community includes approximately **16.000 students and 900 employees**.

He clarified that his role is not merely operational but also strategic, aimed at fostering **conscious mobility choices** through interaction with university governance, student representatives, and regional and local institutions. He then illustrated the outcomes of his first year of activity, which included the development of **home–work and home–university travel plans** to better understand the actual needs of the academic community. Based on these insights, he described engagement with the regional mobility agency to strengthen critical routes, such as the bus connection between **Vercelli and Alessandria**, and participation in regional measures providing **free public transport for under-26 users**. He concluded by calling for stronger integration between **daily mobility management and academic research** to enhance the effectiveness of implemented solutions.

Professor Songini then presented the results of a study conducted on approximately **1.000 university users**, focusing on perceived mobility-related criticalities. A primary issue lies in the **tri-polar structure** of the University of Eastern Piedmont, which distributes its eight departments and around **16.000–17.000 students** across three main cities:

- **Vercelli:** considered the historical core of the university, with roots dating back to the 1200s, hosting the Rectorate, the Department for Sustainable Development and Ecological Transition, and the Department of Humanities.
- **Novara:** hosting the Department of Translational Medicine, the Department of Pharmaceutical Sciences, the Department of Health Sciences, and the Department of Economics and Business Studies.
- **Alessandria:** hosting the Department of Law and Political, Economic and Social Sciences, and the Department of Science and Technological Innovation.

In addition, the university manages other sites distributed across the Piedmont Region, such as **Villa San Remigio in Verbania**, dedicated to executive education and international conferences.

Professor Songini highlighted several critical issues emerging from the study, including a strong need for **reliable public transport**, particularly extra-urban, and a demand for **greater integration among university locations**. The data also show that users are highly sensitive to **sustainability issues** and call for **economic incentives** and greater **organisational flexibility** in class schedules and working hours to reduce reliance on private cars.

2.4 DEBATE AND SESSION CONCLUSIONS

The conclusions of the *"Building coalitions for Mobility-as-a-Service"* session, emerging from the final debate and audience questions, highlighted that **technology is only part of the solution**. At the same time, the core challenge is **cultural and systemic**. The key points can be summarised as follows:

1. **The limits of technology and the role of platforms:** Gerard Albertengo (Jojob) emphasised that, although his company operates as a platform-based business, technology (the app) accounts for only **20% of the outcome**. The remaining **80%** depends on the ability to **communicate with and engage people** in changing their habits. Looking ahead, innovation will increasingly focus on integrating **Machine Learning, Artificial Intelligence, and Autonomous Vehicles** to definitively connect the product (the car) with the service (people matching).
2. **The cultural barrier: "60 million soloists":** a contribution from the audience raised the issue of **social fragmentation in Italy**, describing the population as "60 million soloists" with a limited inclination to collaborate for the common good. This individualism is reflected both in organisations ("us versus them") and in mobility choices, where people tend to protect their own "small garden" rather than seek more efficient collective solutions. The paradox of using private cars for very short trips (e.g. **3 km**) purely out of habit was also highlighted.
3. **Incentives as a spark, not an end goal:** Pasquale D'Uva (Piedmont Region) clarified that **economic incentives**—such as MaaS cashback schemes or transport bonuses—should be understood as a **trigger for change**, not as the final objective. Given that financial resources are limited and discontinuous, incentives should help users discover viable alternatives; once incentives expire, the expectation is that new habits will persist because users recognise their value for **wellbeing and convenience**.

Ecosystem synthesis: the moderator, **Lucrezia Sonini**, concluded by stressing that advanced mobility requires the coexistence of three key factors: **technical skills and solutions** provided by operators; **institutional coordination and governance** among territorial actors; and **user openness**, namely the willingness of individuals to change mindsets and embrace alternative modes of transport.

3. Session 3: Building coalitions: digital connected services to industrial assets

The XXII ASAP FORUM session entitled *"Building coalitions: digital connected services to industrial assets"* highlighted, first through an academic theoretical framing and then through a real-world project presentation, the key factors governing collaboration among multiple actors in the development of **Digital Services**. The presentation of the **GreenBox** project and the collaboration between a water-treatment pump manufacturer (Caprari) and a software company providing an **IoT platform delivered as SaaS** offered a rich and complementary perspective on how manufacturing firms can navigate the transition from products to **connected digital services**.

3.1 Collaboration for digital servitisation

Beheshteh Momeni, ***researcher at the University of Vaasa (Finland)***, opened the discussion by highlighting the need to study collaboration within ecosystems for the development of digital servitisation, a topic she has investigated through both literature synthesis and analysis of real projects. Momeni emphasised that collaboration has always been fundamental to servitisation: both **internal**, among different business units, and **external**, involving customers, suppliers, sales and service networks.

However, the advent of digital technologies such as **IoT, AI, and cloud platforms** has reshaped ecosystems, introducing new interdependencies among actors. Manufacturing firms increasingly rely on the capabilities of a broad range of digital players that provide **computational infrastructure (IaaS)** and **application solutions (SaaS)**. These are complemented by companies specialised in **data analytics and predictive modelling**, leveraging machine learning and artificial intelligence.

Three categories of collaboration

To develop a structured understanding of co-creation dynamics in connected digital services, three distinct levels of collaboration can be identified:

1. **Vertical collaboration:** occurs among actors operating at different levels of the value chain, where the OEM typically collaborates with first-tier suppliers and multiple channel actors, such as distributors, dealers, and service networks, to reach the end customer.
2. **Lateral collaboration involves actor**s from other industries and value chains, such as software companies, consultants, technology platform providers, and financial service providers.
3. **Horizontal collaboration:** aims to share resources to develop new solutions, define industry standards, and engage in lobbying activities to influence regulation. This form of collaboration may even involve competitors and often takes place within formal or institutional contexts (e.g. associations, consortia, partnerships).

Governing collaboration: structural and relational mechanisms

To investigate collaboration dynamics, it is necessary to distinguish between **structural** and **relational** mechanisms.

Structural mechanisms concern the **formal organisational configuration** of collaborative processes and include aspects such as:

- **Organisational models and power relations:** the definition of roles and responsibilities, business models, performance metrics, control systems, and mechanisms for sharing decision-making power (e.g. steering committees).
- **Data and knowledge:** agreements and tools for sharing data, information, and knowledge (e.g. collaboration platforms and project document management systems), including mechanisms to ensure **digital asset security** and **shared intellectual property protection**.

Relational mechanisms, by contrast, relate to **cultural and value alignment** among actors, particularly the development of **trust**. Trust reflects the degree of confidence in partners' capabilities and their level of commitment to the shared endeavour. **Reciprocity** is fundamental: collaboration is sustained when each party perceives that the benefits it receives are comparable to those generated for others, relative to its own level of commitment.

The digital servitisation journey

The study identified three pathways along which manufacturing firms restructure collaboration for digital servitisation:

1. **Initial phase: setting service-oriented business models.** This phase is dominated by **vertical collaboration**, particularly among OEMs, intermediaries, and customers. **Relational governance** is crucial due to power asymmetries. Shared commitment is required for joint investments aimed at cultural alignment (service culture) and the development of new capabilities through widespread training.
2. **Intermediate phase: setting advanced digital services.** Here, **lateral collaboration** with providers of enabling digital technologies becomes prominent. New structural mechanisms are required, such as commercial agreements for **IaaS and SaaS solutions** and secure data-sharing arrangements. Relational mechanisms are equally important: trust emerges through **interdependence and reciprocity** around shared strategic objectives. Commitment is reinforced through long-term plans for sharing resources, knowledge, and capabilities, and through the creation and recognition of **co-development teams**.
3. **Advanced phase: setting platform-based collaboration.** At this stage, collaboration involves multiple actors and unfolds across **vertical, lateral, and horizontal** dimensions. The focus returns to **structural governance mechanisms**, including the organisational model defining the dominant actor, engagement rules for each partner, principles for data and resource valorisation and monetisation (compensation schemes), and incentives designed to ensure maximum reciprocity.

3.2 THE GREENBOX CASE

Gregorio Baisi, Product Manager at ***Caprari Pumps***, and **Stefano Butti**, entrepreneur and co-founder of ***Servitly***, presented the ***GreenBox*** project, a concrete example of digital servitisation developed through collaboration among three actors: the **OEM** (Caprari Pumps), an electronics company specialised in board and firmware design (**Micro Systems**), and a **platform provider** (Servitly).

Caprari has long-standing experience in designing and manufacturing water pumping systems and operates in **145 countries**, with consolidated revenues exceeding **EUR 100 million**, **11 subsidiaries**, and **three production plants**. Its core capability has historically been the integration of **mechanical and hydraulic engineering** for casing and impeller design, together with **power electronics** for supply and control systems.

The decision to develop GreenBox—and thus to offer digital services on connected pumps—represents a significant step towards transforming Caprari's **value creation mechanisms**. This decision was also driven by requests from customers such as public authorities, consortia, and municipalities seeking support to **monitor and optimise the performance** of installed pumping systems.

Through GreenBox, Caprari leverages **IoT technologies** to provide digital services for performance monitoring, ensuring maximum uptime and **energy efficiency**, and thus achieving substantial **operational cost reductions**. In civil and industrial water treatment plants, energy waste due to incorrect pump configuration is common and often results in a significant reduction in pump lifetime.

Caprari developed a **Best Efficiency Point (BEP)** model—also subject to a patent application—which identifies the operating point at which a pump achieves maximum hydraulic efficiency and minimum vibration. In collaboration with its electronics and software partners, Caprari implemented **continuous monitoring and remote-control** solutions to keep pump operation as close as possible to the ideal working curve. When the pump deviates from the BEP, the system suggests parameter adjustments to optimise head and/or flow. This algorithm effectively represents the **digital twin** of the pump, enabling simulation and performance optimisation.

Additional benefits include the ability to revise maintenance programmes, reassess the need for specific interventions, and continuously analyse whether the installed pump type remains the most suitable for the plant. As noted, Caprari collaborated with two partners:

a) **Micro Systems** is an electronics company with over 40 years of experience in industrial boards, firmware, data loggers, and IoT connectivity devices.

b) **Servitly**, a connected services platform provider selected based on prior collaborations and its deep understanding of customer needs.

Stefano Butti emphasised Servitly's mission to avoid a common **OEM trap** in IoT projects: building solutions capable of collecting massive amounts of data (Caprari has **10 million installed pumps worldwide**) while failing to exploit up to **80% of this data** to generate customer insights. For Servitly, technological collaboration with OEMs always means transforming data into **value-generating services**.

Rather than merely implementing specified requirements, Servitly contributed **business knowledge** to support digital servitisation and avoid typical roadblocks, including:

1. **Ineffective data processing for decision-making:** dashboards that fail to support immediate action and require additional cognitive effort.
2. **Lack of application flexibility:** hard-coded solutions that are difficult to manage, adapt, and evolve.
3. **Lack of integrability:** IoT applications that cannot be easily integrated with other systems (e.g. SCADA, ERP).

These obstacles were addressed through Servitly's architectural choices. The primary dashboard was built around Caprari's **BEP model**, using simple analytics to show immediately whether pumps are operating optimally. A **no-code configuration console** enables visual identity customisation and access-rule definition without writing code. The architecture is **API-first**, allowing Caprari to exchange data with third parties, also in line with **Data Act requirements**, and with water utilities managing non-Caprari assets.

This collaboration succeeded thanks to **clear role definition**: Caprari fully delegated software-related challenges (e.g. scalability, cybersecurity, regulatory compliance, user interfaces) to Servitly, focusing exclusively on developing the **algorithm**, which represents the project's proprietary know-how.

Market needs identification (incorrect pump configuration and operation) and prototype development occurred rapidly, within 2 months of the first meeting in 2021. Timelines were then significantly extended (the GreenBox launch is planned for **January 2026**) to transform the prototype into a commercial digital service. The main challenge concerned adapting **marketing and sales processes**, particularly in communicating GreenBox's value in a context where the pump itself is often the least expensive component, while configuration and installation errors generate substantial costs.

3.3 CONNECTING THEORY AND PRACTICE

The GreenBox case provides strong **empirical validation** of theoretical concepts on cross-industry collaboration for **digital servitisation**. Key connections include the design of **structural collaboration mechanisms**, **data governance**, **intellectual property management through patents**, and **trust building**.

All collaboration forms identified by the theory are present. **Vertical collaboration** between the OEM and customers (municipalities/consortia) triggered Caprari's servitisation journey. **Lateral collaboration** was the project's cornerstone: Caprari, with strong mechanical, hydraulic, and electrical engineering expertise, established ties with electronics and cloud platform providers. This collaboration was described as highly reciprocal, with hardware and software design decisions mutually influenced by OEM know-how, which in turn informed solutions for other customers.

Structural governance was meticulously managed. Servitly also contributed to **IP protection** of the algorithm, recognising it as an opportunity to strengthen trust and collaboration. Intellectual property rights thus functioned as a **governance mechanism**, mitigating knowledge spillover risks while reinforcing relationships. **Data-sharing agreements** similarly supported trust-building.

Roles were defined based on capabilities, enabling each actor to focus on its core expertise and accelerating early project phases. The adoption of **APIs** will allow Caprari to exchange data with water utilities and other downstream actors, not only to comply with regulations but also to participate in **broader ecosystems**, strengthening collaboration along the water treatment value chain.

Servitly's strong orientation towards **reciprocal collaboration** is evident: its contribution extended beyond software development to provide qualified knowledge that helped avoid typical roadblocks in digital service development. In conclusion, Caprari built a **successful coalition** grounded in clear roles and a robust IP protection strategy, key structural elements that underpin trust. The joint participation of both actors in the ASAP session reflects a balance between **rigour and flexibility**. Their collaboration may evolve, with governance becoming formal depending on relational dynamics.

4. SESSION 4: LIGHTS AND SHADOWS OF SERVITISATION

The session entitled *"Lights and shadows of servitisation"*, moderated by **Professor Giuditta Pezzotta** (***University of Bergamo***), aimed to explore what works and what instead becomes an obstacle when companies attempt to evolve their operational models. In her introduction, Professor Pezzotta outlined the strategic and conceptual framework for the debate on servitisation, focusing not only on successes but also on the criticalities inherent to this business transformation process.

4.1 THE PRIMA POWER CASE

The contribution by **Dr Giovanni Pucci**, ***Chief After Sales Officer at Prima Power***, fits perfectly within this perspective, offering a valuable testimony that balances technological achievements with lessons learned from less successful initiatives. Prima Power, a brand of the **Prima Industrie Group** specialising in sheet metal

working, grounds its identity in the payoff *"Evolve by Integration"*, reflecting a value proposition that combines technological know-how, automation, and modularity to meet the specific needs of a global customer base. The company operates with a strong focus on sustainability, having adopted electric solutions and fibre laser technologies to reduce energy consumption, and manages an installed base of over **15,000 machines worldwide**.

Prima Power's evolution towards servitisation marked a shift from a purely reactive approach based on spare parts sales and on-demand assistance to a more advanced and proactive model. This transition was enabled by the introduction of digital tools, such as the Fleet Management Tool, which supports remote machine monitoring and enables service managers to intervene proactively. Through the analysis of operational data, the company began offering preventive maintenance packages and customised corrective maintenance contracts, in some cases even placing *"resident" technicians* at key customers' sites to maximise operational availability and reduce downtime.

However, Prima Power's journey also clearly illustrates the **"shadows"** of servitisation, particularly through the unsuccessful attempt to introduce a *"pay-per-hour"* model. This project, developed with a financial partner that purchased the machine and then leased it to the end customer through an hourly fee inclusive of maintenance and warranty, did not gain traction in the market. A subsequent analysis revealed that the failure stemmed from a mismatch between the model and the actual customer base: **98% of customers are small businesses with a single machine**, which were not considered suitable targets by the financial partner, which was instead oriented towards large multinationals.

Beyond the customer dimension, other structural barriers hindered the initiative, such as local regulations and incentives linked to **Industry 4.0 and 5.0** in Italy, which made purchasing the asset far more advantageous than renting it. In addition, the product's intrinsic characteristics proved limiting: Prima Power machines have an exceptionally long life cycle, often exceeding 25 years, making customers reluctant to return an asset that remains highly efficient after five years of the contract. Moreover, an overly cautious approach to pricing, aimed at covering every possible operational risk, led to an hourly quotation that the market perceived as too high.

Despite these difficulties, Prima Power leveraged its experience by redirecting its strategy to strengthen its support infrastructure. The company is implementing a **Customer Portal** to optimise ticketing and spare parts purchasing, and establishing global **Control Rooms** in Italy, the United States, and China. In these control rooms, specialised technicians continuously monitor machine performance to prevent failures and improve the effectiveness of service contracts, demonstrating that, although the path towards pure *"as-a-service"* models is complex, **digitalisation and customer proximity** remain fundamental pillars for generating long-term value.

4.2 THE TETRA PAK CASE

The session continued with a contribution from **Marco Gentileschi**, ***Global Head of Core Services at Tetra Pak***, who was introduced by Professor Pezzotta as an example of how the **Total Cost of Ownership (TCO)** paradigm can be used to overcome market contingencies and create real value through advanced services. Tetra Pak, a Swedish multinational founded in 1951 and characterised by a strong Italian footprint thanks to its research centres in Modena, has undertaken a radical transformation pathway that led, in 2019, to the creation of an independent **Services Business Unit**, represented at board level. This change reflects the company's intention to no longer consider service merely as product support, but as an entity capable of generating autonomous value through three strategic pillars: **reliability, sustainability, and productivity**.

At the core of Tetra Pak's strategy lies **TCO optimisation**, a top priority for customers operating at high volumes with thin margins. Gentileschi explained that the company overcame difficulties in quantifying the value of digital services by focusing on their direct impact on operational costs and on asset lifetimes, which typically range from **15 to 20 years**. On the reliability side, the integration of advanced sensors enabled a shift from corrective to preventive maintenance, optimising routines and sharply reducing downtime. This approach is not limited to technology: it is grounded in a concrete commitment to the customer. If data

enables performance improvements, Tetra Pak assumes responsibility for guiding that improvement, transforming the supplier–customer relationship into a true strategic partnership.

A further distinctive element concerns sustainability, where Tetra Pak uses **artificial intelligence tools** to conduct global assessments and benchmarks of energy and water consumption. By identifying quick wins and long-term investments, the company has generated significant savings, as demonstrated by a case study in which process optimisation led to cost reductions of around EUR 700,000 per year, alongside substantial decreases in CO_2 emissions and water waste. In parallel, the productivity pillar is supported by a **24/7 remote support system** that ensures response times of under 1 minute and issue resolution within 1 hour, leveraging innovative subscription-based business models.

Tetra Pak's servitisation pathway is rigorously aligned with customer maturity levels, avoiding the common mistake of *"falling in love with technology"* at the expense of real market needs. The offering is articulated into solution families ranging from basic maintenance (**Plant Care**) to highly advanced models such as **Plant Secure**. In the latter, the company assumes responsibility for the entire plant, including equipment supplied by other vendors, guaranteeing operational performance and cost reductions through the integration of continuous improvement methodologies and digital tools. Ultimately, Tetra Pak's vision is to extend servitisation across the asset life cycle, gradually including capital equipment as well, with the goal of managing and optimising every component of total cost of ownership for its global partners.

4.3 THE ELECTROLUX PROFESSIONAL AND SYNCRON CASE

The session then shifted the focus to ***Electrolux Professional***, with a contribution by **Marco Toffolo**, ***Vice President of Customer Care***, who illustrated how a **EUR 1.4 billion** multinational is tackling the transition from product-based sales to a *"service as a solution"* logic. Toffolo first clarified the group's independence, which has been listed on the Stockholm Stock Exchange since 2020, and highlighted that the path towards servitisation accelerated decisively in 2018 with the acquisition of **Schneidereit**. This German company, specialised in *full rental* rather than simple washing machine sales, provided Electrolux Professional with the know-how needed to shift operational mindsets and establish, at the top management level, the willingness to scale new business models.

To make this vision concrete and scalable, the company launched the *"Essentia"* package, bringing under a single umbrella all post-sales elements supporting the customer from spare parts and consumables to maintenance contracts. In a highly heterogeneous global market, Toffolo stressed the need to rationalise the offering through a *"service as a standard"* process, resulting in four standardised contract types (i.e., **Performance, Premium, Excellence, and Protect**) that eliminate country-level discrepancies and enable more effective risk management. The complexity of managing contracts lasting up to eight years made it essential to develop an enabling technological infrastructure, built in close collaboration with Swedish partner **Syncron**.

Andrea Merati, Solution Consultant at Syncron, expanded on the nature of this technological support by presenting the *contract pricing* solution underpinning Electrolux Professional's project. Merati explained that servitisation inherently shifts risk from the customer to the provider, which must absorb uncertainties such as unexpected failures or long-term fluctuations in operational costs. To address this, Syncron developed a system based on **Aftermarket IQ**, using AI engines for *cost prediction*. The tool enables real-time profitability estimation for a contract by combining deterministic methods for planned costs (e.g. routine maintenance) with advanced statistical models for variable costs influenced by factors such as geography and raw material availability.

At the heart of the collaboration lies the algorithm's ability to identify the technical parameters that truly drive costs, such as correlations between motor power and failure frequency, thus enabling pricing that is both competitive and profitable. Toffolo concluded by emphasising that, to avoid the "shadows" of servitisation, continuous monitoring of profitability is essential, since discovering financial losses only at the end of a multi-year contract would be lethal for the business. According to moderator **Giuditta Pezzotta**, this integrated approach between the manufacturer and the technology partner represents the strategic response to overcoming local contingencies and building a solid, automated global servitisation model.

4.4 CONCLUSIONS

The session concluded with an extensive roundtable moderated by Professor Pezzotta, who emphasised that the value of the community lies precisely in its ability to build coalitions and increasingly frequent collaborations between technology partners and manufacturers. The Q&A with the audience enabled deeper discussion of the complex dynamics of **service contract pricing**, a topic at the core of the transition towards *"as-a-service"* models.

The debate became more concrete by analysing the drivers behind service costs. **Giovanni Pucci** explained that, in Prima Power's attempt to introduce operational leasing, the construction of the hourly price was influenced by easily predictable costs, such as financial costs, but especially by the difficulty of estimating unplanned interventions. He admitted that the company, still relatively *"immature"* in this model, adopted an extremely cautious approach that ultimately frightened the market by pricing it as too high.

From the Tetra Pak side, **Marco Gentileschi** clarified that the value of digital solutions is not presented to customers in terms of technological costs, but in terms of **guaranteed uptime**. The strategy is based on building a consolidated partnership in which Tetra Pak quantifies the additional production hours the customer can obtain through advanced services, using **bonus–malus mechanisms** linked to the achievement of promised performance. This view was reinforced by **Marco Toffolo** (Electrolux Professional), who reiterated that continuous profitability monitoring is the only defence against discovering financial losses only at the end of contracts that may last up to eight years.

Syncron's technological contribution was essential to closing the loop on risk management. **Andrea Merati** explained that AI algorithms are not designed to process undifferentiated data, but to identify which technical parameters (such as motor power) truly influence defect rates and, consequently, future costs. This makes it possible to shift pricing from purely statistical logic to a predictive, **accurate** one.

A significant part of the discussion addressed the "*shadows*" and cultural resistance. It clearly emerged that many customers, especially smaller ones, remain strongly attached to ownership and struggle to perceive the value of risk transfer to the supplier. Gentileschi openly shared a historical Tetra Pak failure in Spain in 2017, caused precisely by the lack of adequate digital tools to support complex decisions, confirming that servitisation cannot be pursued without a solid **data infrastructure**.

In closing, Professor Pezzotta reflected on the **22-year history of the ASAP centre**, observing a significant transition: servitisation has evolved from sporadic or purely operational cases to a level of strategic and tactical maturity. Today, companies systematically integrate advanced assessment tools and concrete data, demonstrating that business transformation through servitisation has become a structural element of modern industry.

5 CLOSING SESSION

The Forum concluded with an address by Professor Lucrezia Songini, Director of the Master in Servitization, who presented this educational programme as one of the core pillars of ASAP's activities for the development of specialised competences in the field. The Master, which has recently broadened its scope to encompass all industrial sectors after several editions focused on automotive, is positioned as a programme of excellence aimed at transforming service management from an operational practice into true strategic maturity. Its academic structure covers traditional disciplines such as management, strategy, organisation, and human resources, consistently interpreted through a service-oriented lens, and includes dedicated modules on emerging digital technologies—such as artificial intelligence—as well as on the legal frameworks governing this market.

A distinctive feature highlighted by Professor Songini is the predominantly online nature of the programme, with only a few in-person sessions dedicated to the opening, closing, and thesis discussion. The learning

experience goes beyond academic theory and is enriched by numerous company testimonials drawn from the ASAP network, culminating in a Project Work. This final assignment enables students to develop a concrete project within their own organisation, supported by both an academic tutor and a company mentor, thus ensuring an immediate return of educational value in practice.

The value of the programme was further evidenced by four participants from the current cohort, who shared how the Master enabled them to give structure and a clear framework to processes they had previously managed on a largely empirical basis. Patrizia Sansolini (Toyota Material Handling) emphasised that servitization requires a profound transformation of people—particularly technicians, who must evolve into professional consultants capable of managing connectivity and customer relationships. Marco Camagni (United Machine) and Giovanni Catania (Romana Diesel) highlighted the richness of the cultural and professional exchange among peers, as well as the Master's ability to fill specific gaps by turning technical or engineering approaches into comprehensive managerial perspectives. Finally, Paolo Mauri (Angelo Po) described the Master as the natural culmination of a long career in service, underlining the importance of cross-sectoral contamination in generating new sources of inspiration.

In closing, after announcing that enrolments for the next edition will close at the beginning of March, Professor Songini and Professor Mario Rapacini addressed the community, reiterating that the Master is a collective initiative involving faculty from multiple universities and partner companies. The Forum ended with a call for continued collaboration, reaffirming that ASAP's greatest value lies in its ability to build educational and project-based coalitions capable of guiding companies through both the challenges and opportunities of servitization.