Point of view

FROM CAPEX TO OPEX – THE ART OF RECURRING REVENUE BUSINESS MODELS IN INDUSTRIAL B2B

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Summary of Key Points:

- Instead of selling machines as a one-off investment, machinery manufacturers increasingly offer their machines based on an outcome-, output-, or time-based recurring revenue contract, thereby replacing CAPEX with OPEX from an operator perspective.

- Recurring revenue business models are particularly attractive for industrial B2B players because they generate a 5-10x company value multiple per revenue compared to traditional business models, with underlying drivers being (1) higher growth potential, (2) higher margins, and (3) more stable, predictable revenue.

- While connectivity of technological assets is not a prerequisite for this, it enables the execution of key functions such as real-time revenue recognition, performance monitoring and in many cases predictive maintenance.

- To succeed in recurring revenue business models, four key areas need to be addressed: (1) The value proposition needs to be translated into a monetization model; (2) The operating model needs to be scalable; (3) Financial risks such as the holding of capital expenses and longer payback times need to be addressed; (4) A fundamental mindset and cultural shift needs to be addressed in developing and selling the business models.

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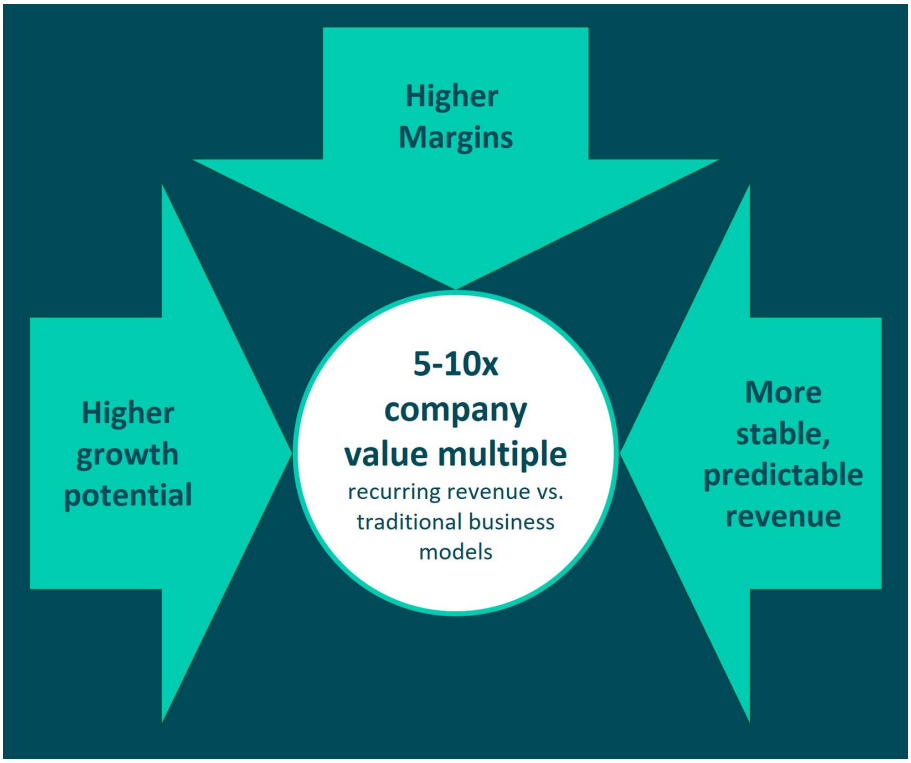
Why is it attractive for industrial B2B players to develop recurring revenue business models?



Recurring revenue business models such as X-as-a-Service (XaaS) with monetization models such as pay-per-part or pay-per-use generate a 5-10x company value multiple per revenue compared to 1-2x for traditional business models. Underlying drivers for this impact include: (1) higher growth potential, (2) higher margins and (3) more stable, predictable revenue.

1 - Higher growth potential:

Recurring revenue business models have experienced larger, more predictable and resilient CAGRs even through economic crises due to a number of reasons.

First, the financial risk of capital expenses can be removed for the customer in recurring revenue business models, increasing accessibility for new customer segments e.g., large corporations that want to reduce their capex, startups, or smaller businesses. Outcomes are also aligned with customer values, leading to higher customer retention and referral; and data transparency drives deeper and more nuanced customer insights with the use of scalable databases, further driving innovation.

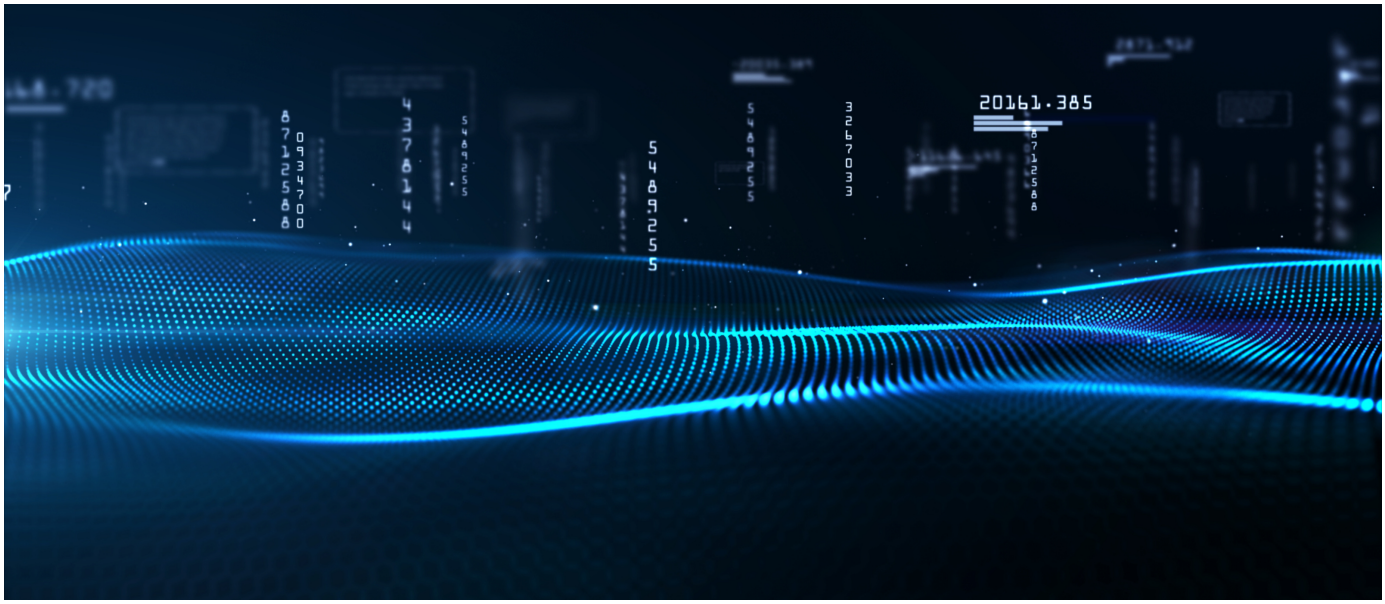
Finally, the industrial B2B XaaS market is currently in a growth stage with the outcome-based software market in manufacturing at $88B in 2019 with an 11% CAGR; the global hardware XaaS market is expected to exceed $300B with >25% CAGR from 2021 to 2027. An example of a company who has experienced these benefits is Hewlett-Packard Enterprise (HPE), with HPE Greenlake cloud service solutions having onboarded >1000 customers with >$4B in total contract value within three years of launch, an annual average of just under 5% of their 2020 net revenue. Recent post-pandemic acceleration has been partially attributed to strong XaaS momentum.

2 - Higher profitability/margins:

EBIT margins for service-based models are up to 3-7x higher as compared to traditional equipment sales in part due to database and operational scalability. In addition to this, customer-centric business models typically have output measurements specifically aligned with customer values, which increases loyalty in the form of referrals and retention.

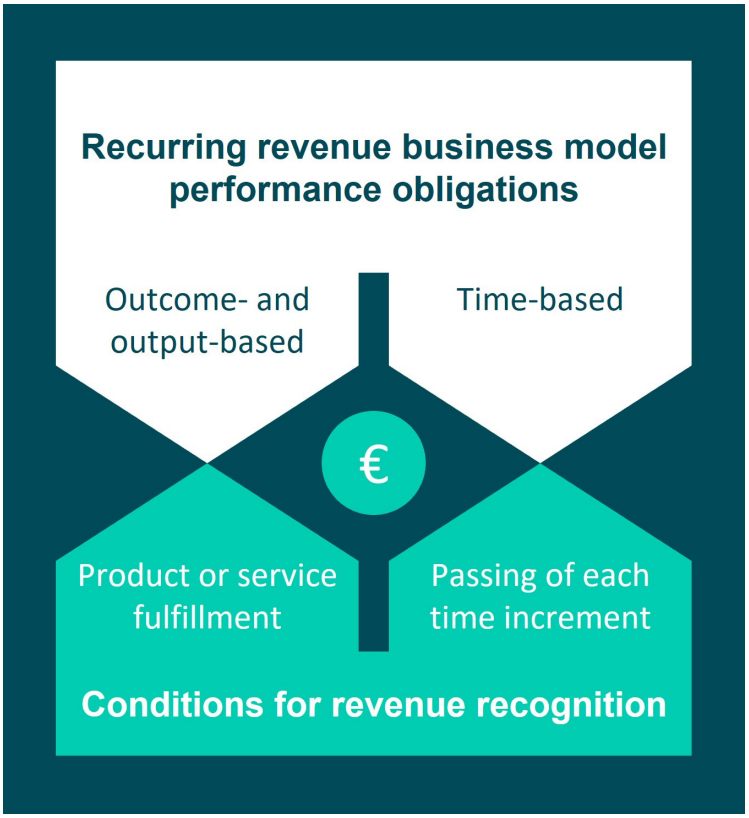
3 - More stable, predictable revenue:

Subscription contracts make a strong argument for higher company valuations due to more predictable recognition of recurring revenue that is independent of the lifecycle of the hardware, higher customer focus, and profitability driven by scalability.



What does “recurring revenue business model” in industrial B2B mean?

By selling machines not as a one-off investment and instead offering recurring revenue contracts, CAPEX is replaced by OPEX from an operator perspective.



Recurring revenue can be characterized as “a service that stops once the customer stops paying for it.” According to joint Accounting Standard Codification (ASC) 606, released in 2014 by the Financial Accounting Standards Board (FASB) and counterpart International Accounting Standards Board (IASB), the transaction price for separate performance obligations can be recognized as revenue once the entity satisfies each performance obligation.

The way this is interpreted depends on the type of recurring revenue model, namely (1) outcome- and output-based and (2) time-based models.

1 - For **outcome- and output-based models**, revenue should be recognized when an agreed-upon product or service has been fulfilled. For instance, world leading manufacturer of industrial solutions Atlas Copco’s AIRplan subscription service would recognize revenue for each unit of compressed air consumed.

2 - For **time-based subscription models**, on the other hand, contract fulfillment is determined by the passing of time over a period agreed upon with the customer. As each time increment (e.g., hours or days) passes, deferred revenue turns into recognized revenue. An example of this is logistics equipment provider Jungheinrich’s long-term rental program for forklifts and other industrial trucks, which is calculated based on an agreed-upon monthly rate per truck and would recognize revenue incrementally over each day or month of fulfilled rental.

Technological requirements:

Connectivity of technical assets is not necessarily a prerequisite for companies to have successful recurring business models – industrial B2B recurring revenue models were implemented before the boom of the Industrial Internet of Things (IIoT). This is highlighted in the classic example of Rolls Royce's "power-by-the-hour" program, which since 1962 has rented aircraft jet engines on a per-flight-hour basis.

However, in most current-day cases opex business models are enabled by hardware/software connectivity, because they enable the execution of key functions such as:

- **Recurring revenue recognition**: Cloud-based connectivity enables OEMs to track the production of their machines in real-time, providing a foundation for recognizing the revenue for output- and outcome-based services.

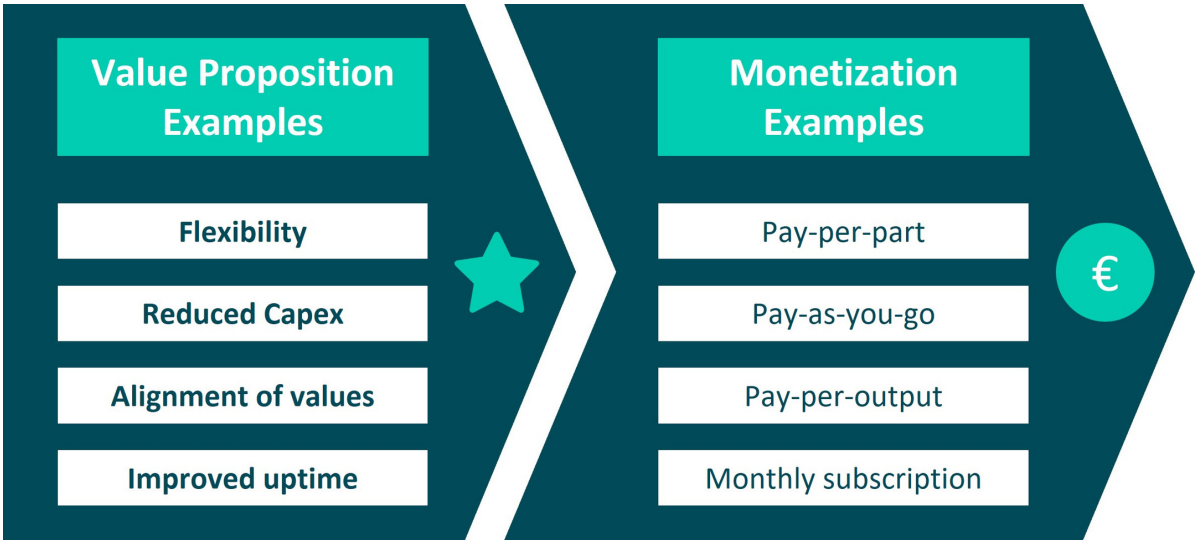
- **Operational performance tracking**: Machine performance needs to be monitored to be properly managed, and this needs to be done remotely and at-scale to make the model cost-efficient. This also enables key insights into customer behavior, further driving innovation and a more intimate understanding of customers.

- **Predictive maintenance**: In many case examples, companies employ predictive maintenance in their recurring revenue business models, which requires connected systems to collect, combine, and analyze machine performance data to predict when maintenance is necessary.

For these reasons, most industrial B2B companies leverage connected assets as enablers for recurring business models.

Four things to get right to succeed in recurring revenue business models.

1 Translation of value propositions to monetization model



A challenge in recurring revenue business models is to not just do what is possible from a technological perspective, but to find a clearly added value to the customer. Some example value propositions brought to customers are:

- **Flexibility**: The customer has the flexibility to adjust capacity or end the contract, allowing them the freedom to adjust production processes as needed, reacting faster to market changes.

- **Reduced capital expenses**: The switch from capex to opex results in a lower barrier to market entry and increased financial accessibility for a broader range of customers, e.g., large corporations that want to reduce their capex, startups, or smaller businesses.

- **Alignment of values**: By orienting the business model around results that add value to the customer, the OEM has aligned their interests with the customer and must deliver measurable results to generate revenue e.g., efficiency in hardware functionality, timely software updates and improvements. One example of this is Siemens' opex model for Building-Efficiency-as-a-Service which offers contractually guaranteed energy savings, and only gets paid if they meet the agreed-upon performance targets.

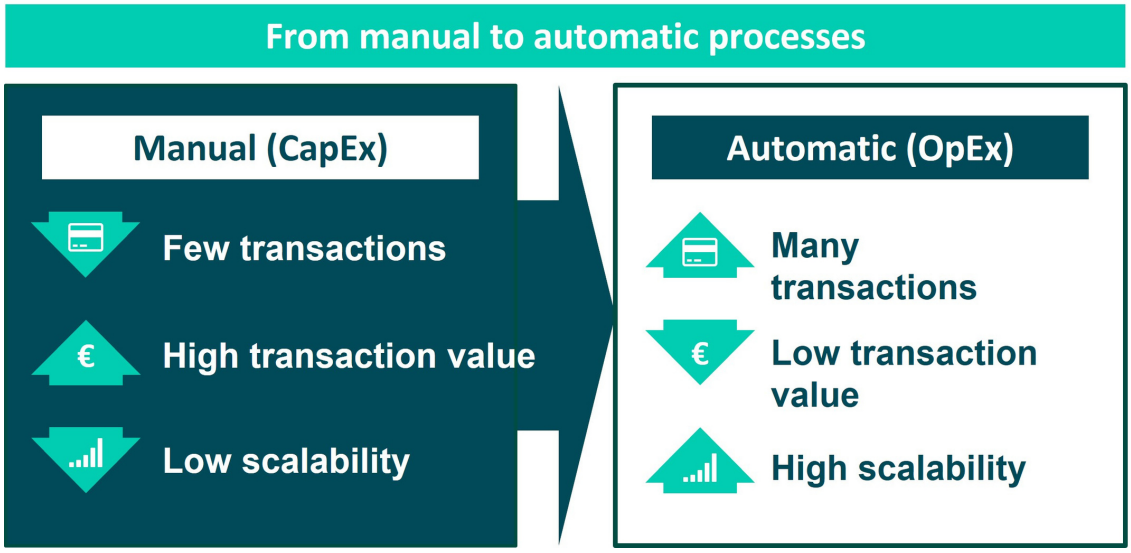
- **Improved uptime e.g., if using predictive maintenance**: Due to this alignment of interests, it is also within the OEM's interest to provide high service integrity and operational reliability. In many cases, predictive maintenance is offered as an add-on or gratuitous service to achieve this. E.g., Schneider Electric's Ecostruxure TM Asset Advisor comes with a predictive maintenance-based uptime value proposition.

To have a strong business case, the value proposition must then be translated into a monetization model that results in a convincing business case for both the OEM and customer. Potential monetization models include:

- **Output-based**: Defined by factors such as per unit (output is not quality-dependent) e.g., pay-per-use. Philip's light-as-a-service, for instance, has customers paying per kWh light as an output.

- **Outcome-based**: Defined per unit output that meets a quality threshold e.g., pay-per-part. An example of this is TRUMPF's pay-per-sheet model for laser cutting machines, which requires customers to pay for products that meet a quality threshold.

- **Time-based:** Defined by time e.g., monthly subscriptions or pay-as-you-go. Global technology company ABB Ltd. offers smart sensors for motors, pumps and other machines which are paid for in monthly or yearly contracts, for instance.



2 Scalability of operating model

One characteristic of recurring revenue business models is that they have a higher number of transactions with lower value per transaction compared to capex business models. Depending on the recurring revenue business model, the value of these transactions can fluctuate, and the user may change the monthly service output or subscription duration, suddenly resulting in a different rate. For this reason, the successful implementation of this type of business model requires a very efficient operating model with a high degree of scalability, e.g., in the subscription and billing processes.

This means that the company must be able to scale from one to tens of thousands of transactions per month without placing a significant burden on manual back-office processes. In the past, for instance, the billing process may have included many manual steps, which was acceptable from an economic point of view, because the bill had a large sum associated with it. For opex business models, however, which deals with a higher number of smaller transactions, the billing process needs to be totally automated in conjunction with the usage of the machine. Suddenly the billing process requires an integration of the Operating Technology (OT) of the machine with the IT of the back office. Thus, the implementation of the recurring revenue business model requires a review of the end-to-end processes, including a likely impact on the IT/OT architecture. Cloud-based back-office IT services optimized for subscription businesses such as Zuora and NetSuite may lead to faster success compared to attempting to repurpose legacy IT architecture.

3 Address financial risks in monetization model

There are two main sources of financial risk for companies to adjust to when shifting from capex to opex. The first financial risk concerns who holds the capital expense and the second comes from a potentially longer payback time. Companies have taken different approaches to mitigating this risk, for example:

- **The OEM assumes full responsibility**: The OEM assumes all financial risk by keeping the capital expenses on their books. For instance, Jungheinrich takes on full responsibility for the capital expenses of their industrial fleet while customers only need to pay a subscription for the rental of their equipment. Some companies attempt to offset this risk by requiring from customers a one-off down payment on the equipment, which they get back upon returning the equipment, as is the case with industrial printing manufacturer Heidelberg's pay-per-sheet model. These approaches have the disadvantage that companies must engage in longer contracts with customers to break even.

- **Shared responsibility with a strategic partner**: An alternative approach is passing the capital expenditure onto a strategic investment partner such as a bank or an insurance agency, who pays the initial capital expenditure and in turn benefits from part of the recurring revenue, as for the example in the case of TRUMPF's partnership with Munich RE.

4 Mindset and culture shift for developing and selling business models – implications on people & stakeholder levels

All previously described points require a fundamental mindset and cultural change on a people level in the way that organizations (1) develop and (2) sell their offers.

1 - Developing the offer:

In the past, companies would typically have a long, waterfall-based Product Development Process, which would after years bring a finished product to customers. For opex business models, however, much shorter development loops are required to pinpoint what the customer fully values, and to allow for fast customer feedback in the spirit of fast failing and fast learning. Therefore, a Minimum Viable Product (MVP) approach needs to be taken, which can be tested with a select group of customers and grow in terms of features from there. To succeed in an MVP approach, companies need to work in small, agile teams with a cross-functional, small leadership team that has full autonomy to make fast decisions as opposed to being slowed down in the traditional matrix organization.

2 - Selling the offer:

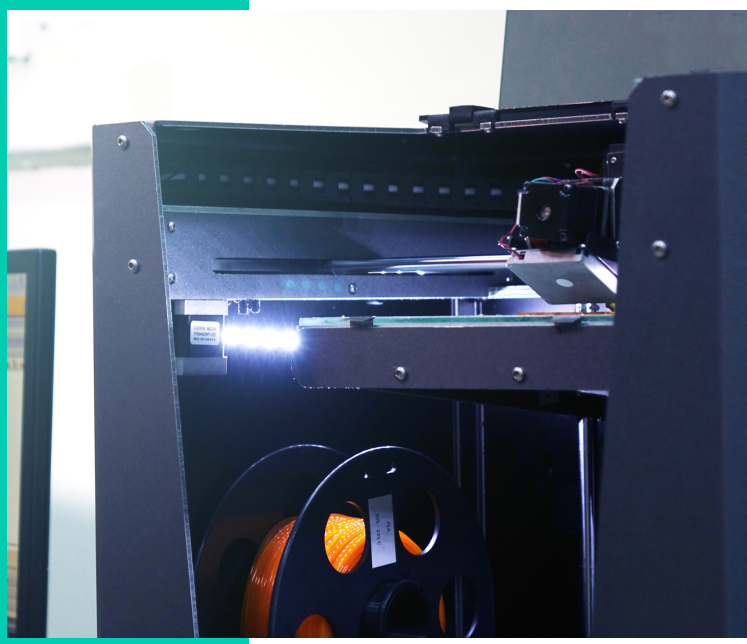
Recurring revenue business models in industrial B2B have a number of characteristics that require a mindset change in the sales approach, including:

- **Long sales time**: New digital offers are market creating and value needs to be explained to create demand. Furthermore, business models often deviate from traditional approaches and therefore require C-level selling. Consequently, this approach requires another type of salesforce, people and associated collaterals and equipment. If multiple functions are impacted, the number of stakeholders increases.

- **Low revenues per contract**: Recurring revenue business models have lower revenues over a longer time period, requiring a reconsideration of sales incentives taking into account customer lifetime value, the value of data, the nature of annual recurring revenue (ARR) and customer churn.

- **Technological hurdles**: Remote solutions for IIoT require a deeper understanding of customer-specific IT architecture to make a relevant offer. Also, cyber security concerns need to be addressed in the sales pitch.

CYLAD Consulting offers remote or on-site workshops and quick diagnostics to review the maturity and required actions of recurring revenue business models in industrial B2B.
If interested, please contact Thomas.Trautmann@cylad.com or Peter.Odenwaelder@cylad.com for further information.



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