Towards service-oriented business models: a survey of capital goods companies

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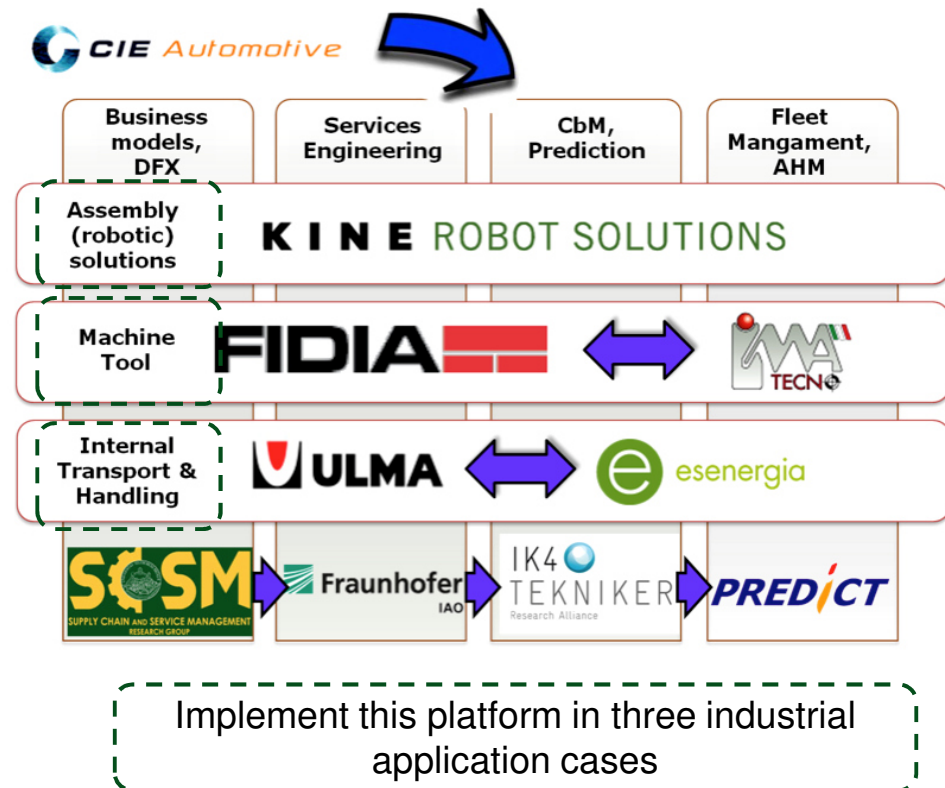Ogni abuso potrà essere perseguito ai sensi delle vigenti leggi.

T-REX project

7th Framework Programme for Research and Technological Development

This presentation shows the main findings from a survey carried out within T-REX, a research project funded by the European Commission (EC).

Obj. - develop a business platform for capital goods companies whose main elements are:

- a **new service-oriented business model**

  (*develop a new business model suited for the new landscape that changes the way products are offered and customer relationships managed*)

- an improved **design of the products**

  (*implement product design techniques to extend the lifecycle, to foster upgrading and renovation, and to support serviceability*)

- a **re-engineering** of traditional **service**

  (*develop new services consistent with the business models and re-engineering existing services*)


Implement this platform in three industrial application cases

AGENDA

BACKGROUND AND OBJECTIVES → MAIN FINDINGS → CONCLUSION and NEXT STEP

BACKGROUND

▸ New trends for manufactures producing and selling durable products push towards not to sell the product but rather **to sell either the usage of the product** (e.g. renting, pay-x-use) **or the product performance** (e.g. pay-x-performance).

▸ Although the growth of the service business in manufacturing has been considerable, the diffusion of these new **service-oriented business models** is still quite low, and not very mature: a limited application has been observed in particular in the **capital goods sectors**.
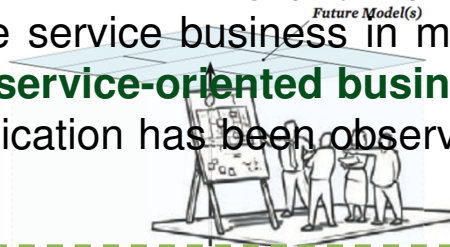
Especially in terms of business model approach, there is a grey area for manufacturers trying to achieve a successful "transformation to services" and to capture and create value through the provision of product-service solutions.

Neely, Benedettini and Visnjic (2011)

Few model-based approach guides companies in this transition process and specifically analyse the elements and their configuration in service-oriented business model

Figure, Osterwalder et Pigneur, 2010

OBJECTIVES

- Identify the elements that can describe how business models of capital goods company are configured

Develop a Business Model Framework that can be used to formalize, comprehend and analyse the current business logic of a company

Empirically investigate the way business models of companies that operate in machinery (machine tools), automation (robots) and transportation (earth moving and forklifts) sectors are configured

- Current configuration of the most relevant variables in the sample
- Highlight for each sector the main deviations from the general findings (service orientation)

SAMPLE DESCRIPTION

Company Size *	No.	% of the sample
Micro	6	6%
Small	18	19%
Medium	28	29%
Large	43	45%
Total	**95**	**100%**

Company sector	No.	% of the sample
Machinery	64	67%
Automation	15	16%
Transportation	8	8%
Others	8	8%
Total	**95**	**100%**

- Mainly Italian and German companies that operate in the machinery sector.
- Sample is characterised by a great presence of large companies.

1. Strong presence of large companies in Germany
2. Lower degree of maturity on service-related aspects in SMEs: lower awareness and interest
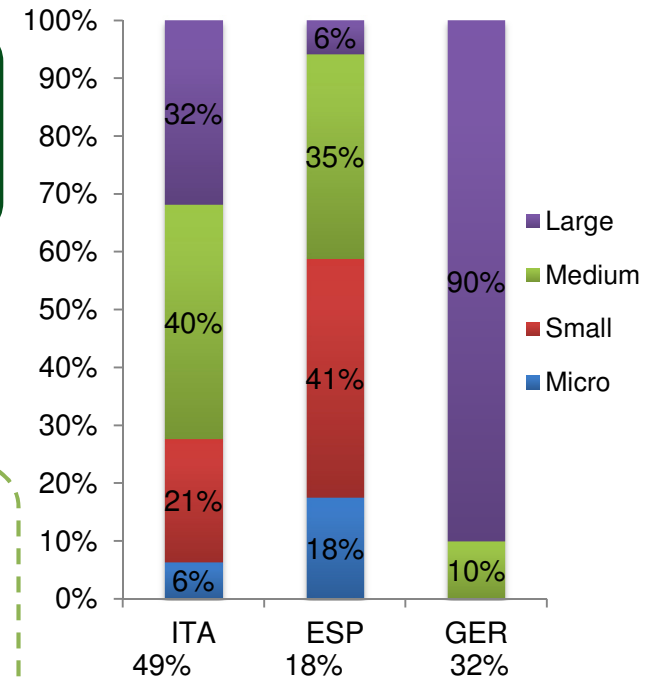
* "New SME definition" provided by the European Commission

AGENDA

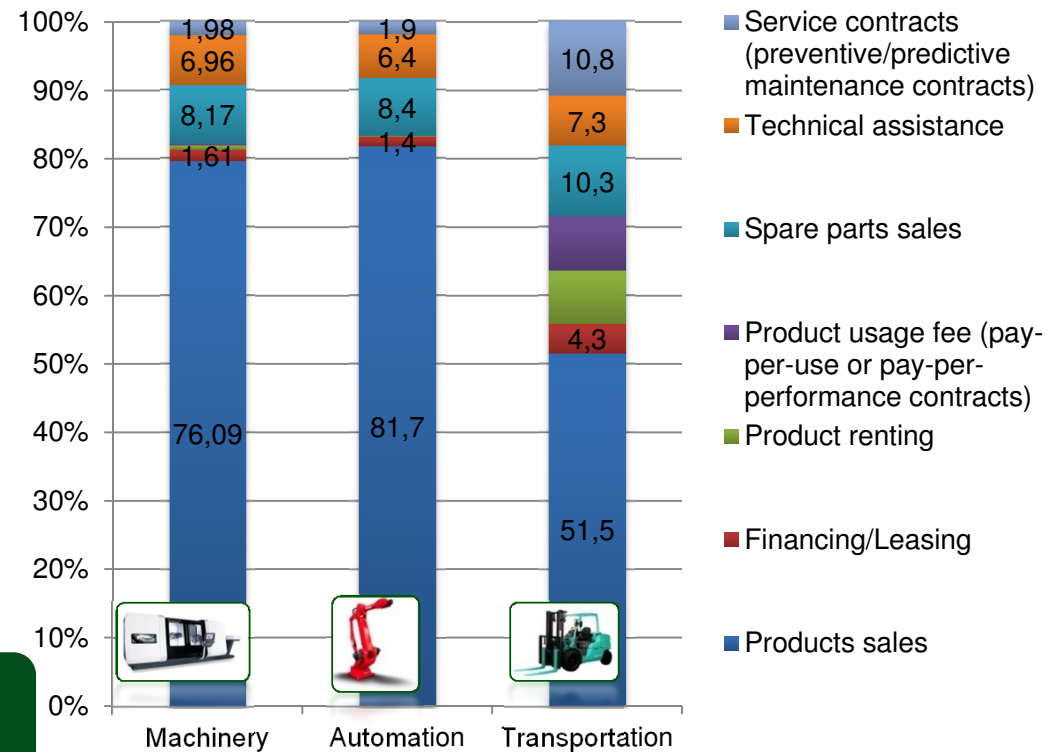BACKGROUND AND OBJECTIVES → MAIN FINDINGS → CONCLUSION and NEXT STEP

REVENUE MODEL

Machinery and Automation: Revenue models are dominated by product sales, with a contribution of services close to 20%. In particular service contracts and financing/leasing represent less than 2% each. Renting and pay-per-x contracts **don't generate revenue.**

Transportation: Service represent about the 50% of companies turnover. In particular service contracts represent the main sources of service-related revenues (about 11%). Financing/leasing contribute to the total turnover for around 5%, renting and pay-per-x contracts for around 8% each.

The revenue stream composition indicate that the offering of transportation companies is more service-oriented


Legend:
- Service contracts (preventive/predictive maintenance contracts)
- Technical assistance
- Spare parts sales
- Product usage fee (pay-per-use or pay-per-performance contracts)
- Product renting
- Financing/Leasing
- Products sales

|	Machinery	Automation	Transportation
Service contracts	1,98	1,9	10,8
Technical assistance	6,96	6,4	7,3
Spare parts sales	8,17	8,4	10,3
Product usage fee			
Product renting			
Financing/Leasing	1,61	1,4	4,3
Products sales	76,09	81,7	51,5

VALUE PROPOSITION:
Service offering

Service offerings are still **mainly anchored to traditional services**

Automation: offer, in some cases, also advanced services related to optimization of customer processes.

Transportation: more extended service offering with an higher diffusion on almost all the services oriented to extend the product life-cycle and offer some advanced services (financial services, leasing, second-hand services and rental)
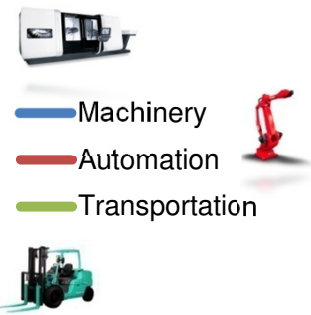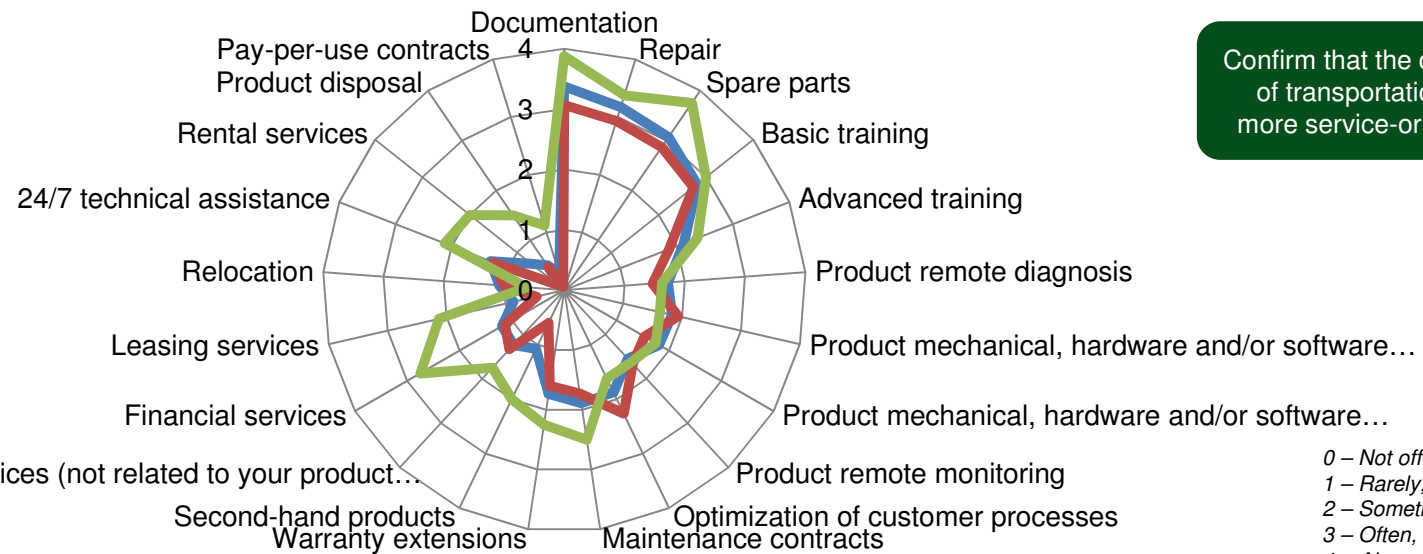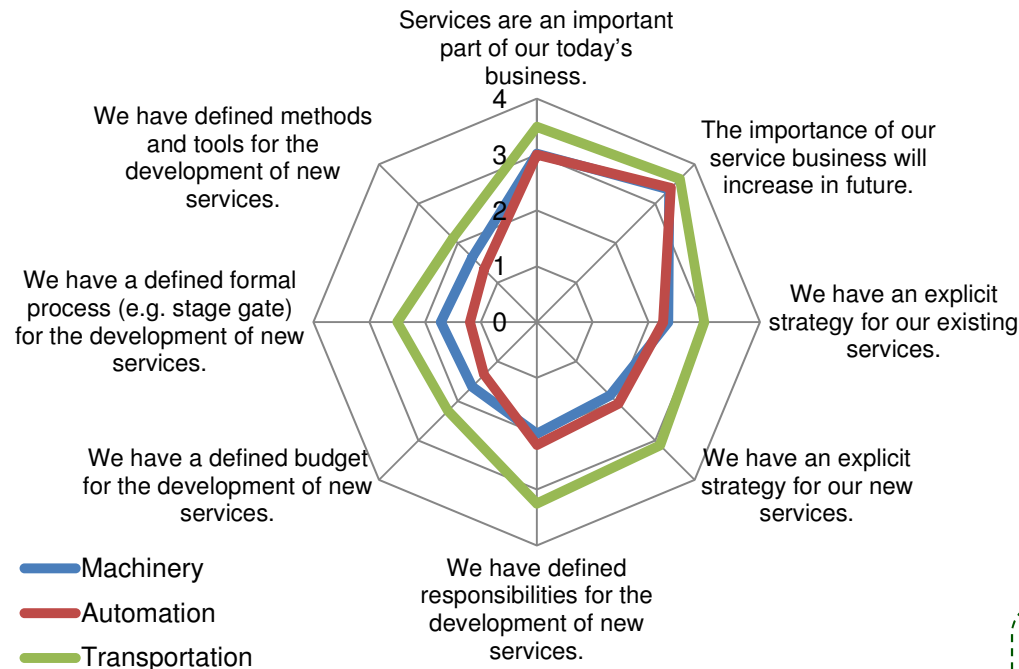
Confirm that the offering of transportation is more service-oriented

- Machinery
- Automation
- Transportation

0 – Not offered,
1 – Rarely,
2 – Sometimes,
3 – Often,
4 – Always offered

KEY ACTIVITIES:
Service engineering

Orientation towards service engineering practices
(0 – Strongly disagree, 4 – Strongly agree)

Focus on the T-REX levers, that could support the development of service-oriented BM
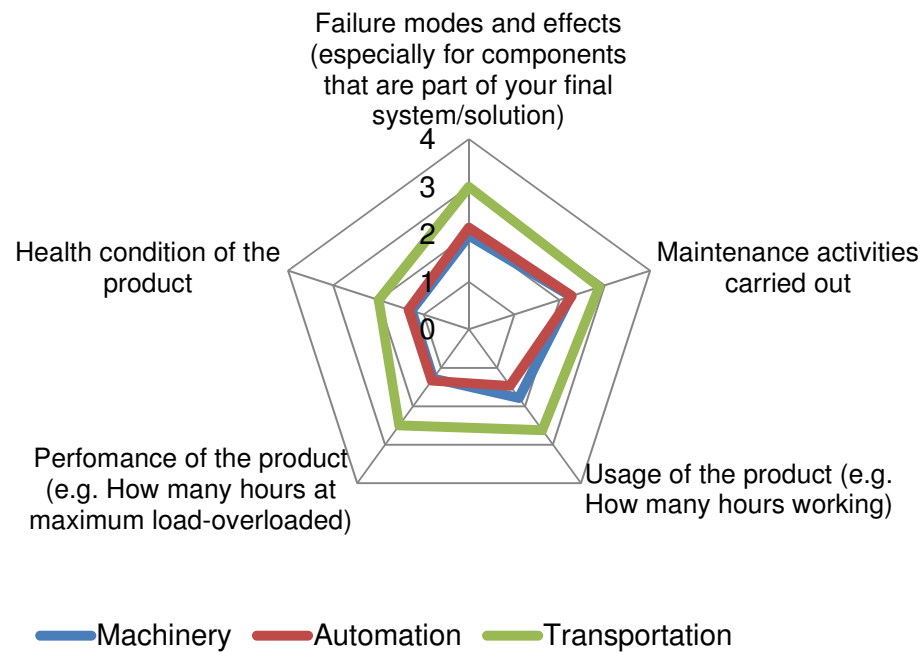
Findings:

- Companies consider **services as an important part** of their business and also think that **importance of services will increase** in future.

- Companies **do not have defined yet** explicit strategy, responsibilities, budget, formal processes and methods for the development of new services.

Transportation: Companies have defined an explicit strategy for existing and new services. Moreover they have also defined responsibilities for the development of new services.

KEY ACTIVITIES:
Installed base condition monitoring

Consistent with higher orientation tw. service business

Typologies of data that can be collected by companies from their installed base in order to improve the control, the durability and the serviceability of their products

Findings:

- Information related with maintenance activities performed and with products/components failure causes are collected on average on a high percentage of installed base (respectively 51% and 44%),

- More complex and less easy to collect data such as product usage, performance and health condition are available for a minor part of the installed base
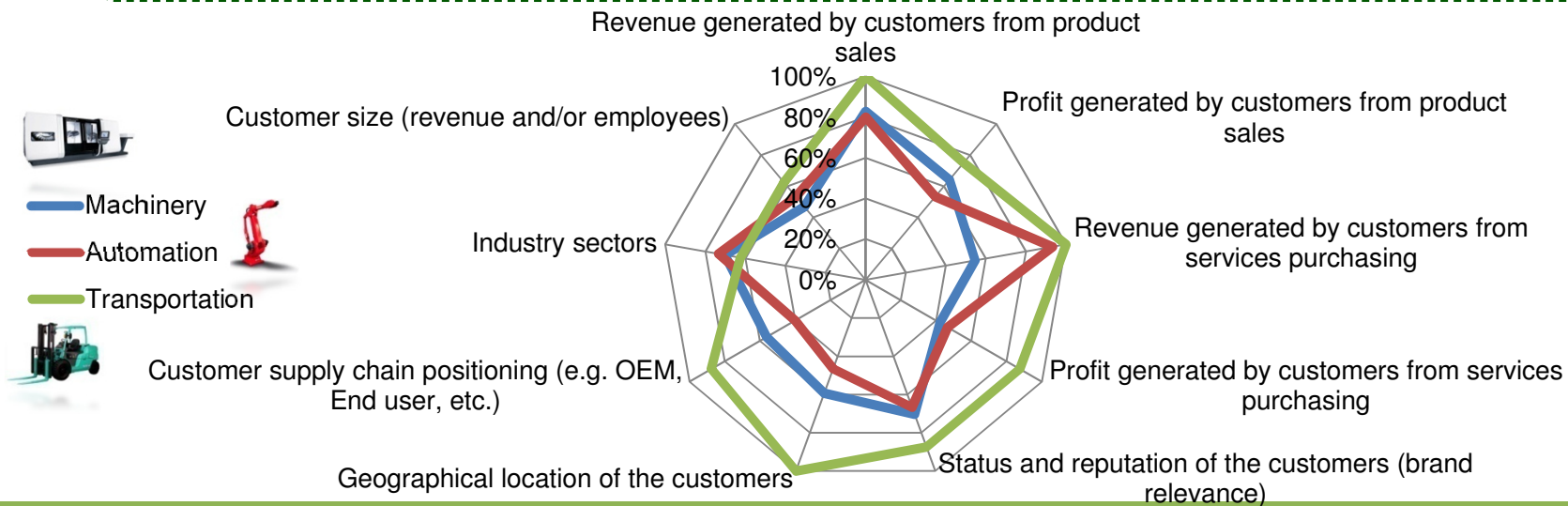
Transportation: support their fleet operation and maintenance activities by managing a larger number of data over a larger part of their installed base compared to Machinery and Automation companies

Failure modes and effects (especially for components that are part of your final system/solution)

Health condition of the product

Maintenance activities carried out

Perfomance of the product (e.g. How many hours at maximum load-overloaded)

Usage of the product (e.g. How many hours working)

— Machinery — Automation — Transportation

Control over the installed base in terms of data collection
(0 – 0/20%, 1 – 21/40%, 2 – 41/60%, 3 – 61/80%, 4 – 81/100%)

CUSTOMER SEGMENTATION:
Adoption of customer segmentation criteria

- Common criteria are traditional ones such as **revenue generated by customer** purchase of products and its **geographical location,** both based on data and information that are easy to collect.
- Less common the adoption of criteria that rely on information that are more difficult to obtain (profit products or services)

Transportation: companies are more used to segment their customers with several criteria;
Very important to develop offerings that **fulfill specific customer needs** and to support company decision

Machinery
Automation
Transportation

Revenue generated by customers from product sales

Customer size (revenue and/or employees)

Profit generated by customers from product sales

Revenue generated by customers from services purchasing

Industry sectors

100%
80%
60%
40%
20%
0%

Customer supply chain positioning (e.g. OEM, End user, etc.)

Profit generated by customers from services purchasing

Geographical location of the customers

Status and reputation of the customers (brand relevance)

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NEXT STEP:
moving towards a new BM

To move towards SOBM, companies need support in the identification and adoption of the appropriate BM configuration through an "ad-hoc" methodology and toolkit.

BM assessment

Specific Company Case features and objectives

"T-REX new BM"
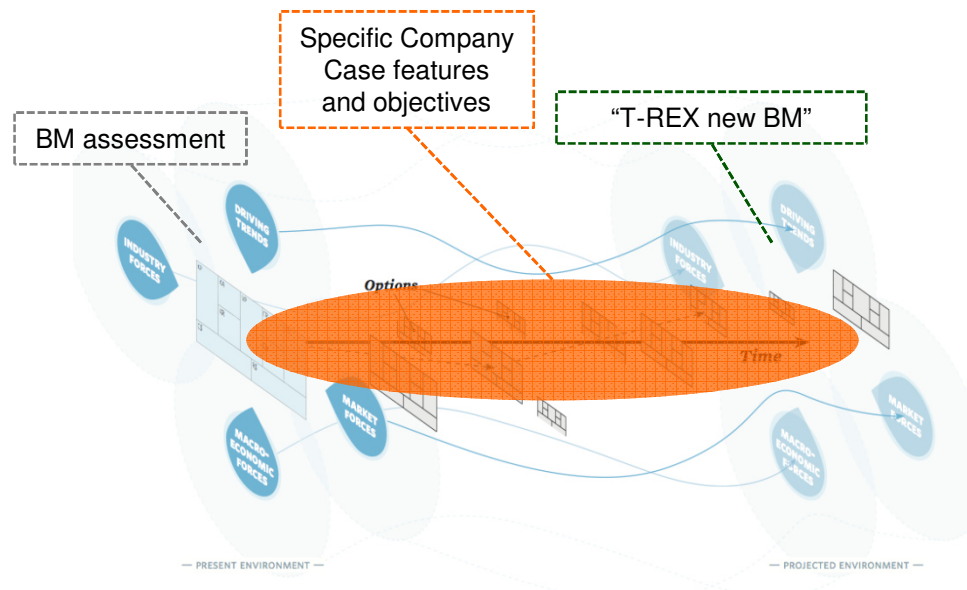
Develop a **reference framework** that can guide companies in the evolution from a "traditional" BM to new Service Oriented BM

- A model that **sequences possible BM** from very basic models to far more advanced ones.
- Using this framework, companies can **assess** where their current BM stands and then **define appropriate next steps**.

Acknowledgments

CONTACTS

Thanks for your attention!

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