

# actua

*Energy Efficiency Technologies*

**Innovation means invention  
implemented and taken to market**

J.S. Brown,  
Director Emeritus Xerox PARC

**Actua S.r.l.  
Energy Efficiency Technologies**

**2009 Business Model**

[www.actuatech.eu](http://www.actuatech.eu)

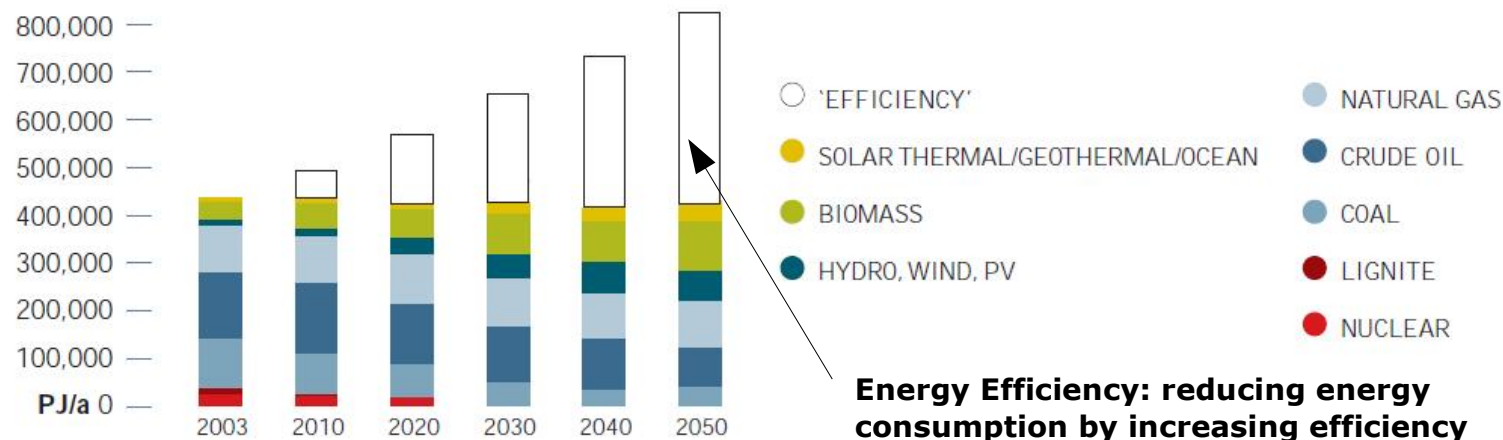
# Energy Efficiency

# The next revolution will be centered on Energy Efficiency Technologies ..... because it is NOT an option

Actua aims at being active part of the next Energy [r]evolution

**figure 1: development of primary energy consumption under the energy [r]evolution scenario**

('EFFICIENCY' = REDUCTION COMPARED TO THE REFERENCE SCENARIO)



**Energy Efficiency: reducing energy consumption by increasing efficiency**

- **European Renewable Energy Council (EREC) and Green Peace**  
Industry, trade, research, and environmental associations agree on the opportunity to exploit the need for efficiency to create a **New Green Economy** to save our planet and as a huge financial and industrial opportunity.
- **United States, European Union and China**  
To solve the greatest economic crisis since the Great Depression all nations agree to revert to some sort of Green New Deal to reshape industry toward Clean Technologies
- **Why Energy Efficiency Technologies?**

The two keys to the next revolution in the coming decade are new energy sources and efficient energy usage. In order to reduce consumption, we have to be efficient. In order to be efficient, we have to use more technology with this objective as the leading one.

# In fields like transportation and renewable energy sources, efficiency is mainly a question of effective actuation and control

## Energy Efficiency through effective Actuation and Control of complex systems

- **Why Mechatronics?**

Because if Efficiency is a goal, Mechatronics is a mean that allows to obtain an optimal solution, i.e. Efficiency.

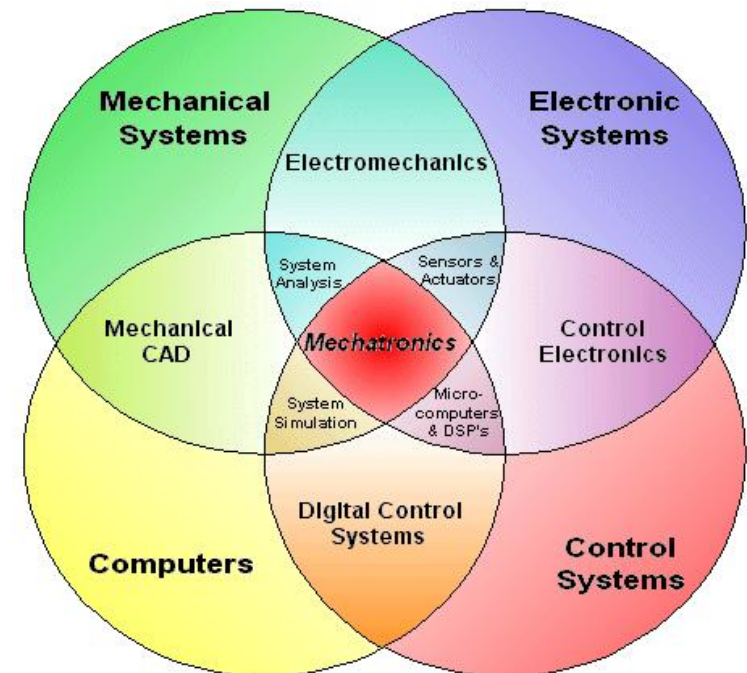
Sticking to its original definition is perhaps the best way to practice it:

*Mechatronics is a way of designing products to ensure optimal system performances.*

- **Why Actua?**

Actua is working on real products and technologies to reduce consumption. And Energy Efficiency is a general issue. It applies to efficiency in production as well as efficiency on the consumption side (such as distributed energy sources, home consumption, transportation consumption etc.).

*In fields like transportation and renewable energy sources, efficiency is mainly a question of **effective actuation and control**.*



# Business model

# Actua S.r.l. is a holding company for energy efficiency technologies development and exploitation

## Introduction Actua S.r.l. – Origins, Mission, Competences

### → Origins



Actua S.r.l. is an holding company for Energy Efficiency Technology development based in Turin, Italy. A spin-off of Politecnico di Torino, Actua's founder and CEO is Stefano Carabelli.

### → Mission

Actua focuses on innovation with cluster technologies implemented and taken to market as real products.



### → Competences

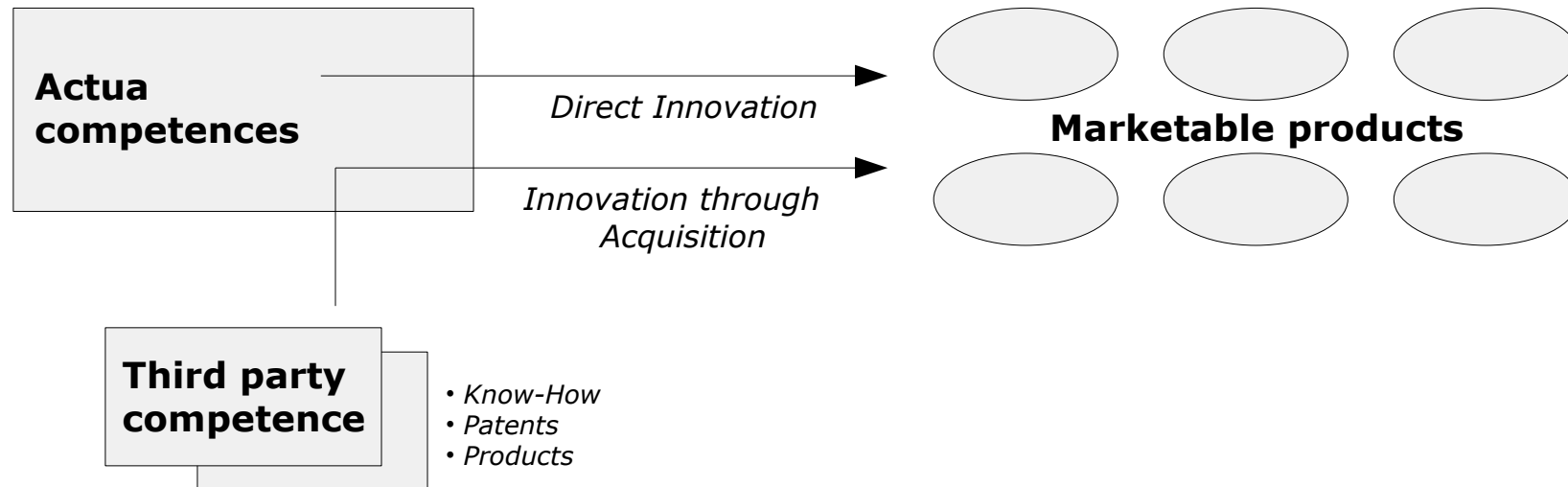


Actua is a team of professionals with substantial year-long experience in Mechatronics and systems dynamics. Actua is working with a network of universities and research centers.

# Actua is developing innovative products to be taken to the market

## Strategy

Actua is to stress existing **internal competences** into **marketable products** while taking products to market through **direct innovation** and **acquiring** new competences and technologies, helping them to build new products.



# Actua's Revenue Model is direct investment in engineering, industrialization with a partner and finally licensing of the marketable product

## Revenue Model

- **Direct Investment for Engineering**

Actua makes direct investments into the engineering of products, to be finalized in technical results and prototypes.

Market forecasts and analysis add to the technical side to assess product potential.

Eventually, a value assessment of **Intellectual Property** is performed.

- **Industrialization with a partner**

Actua then searches for a **partner** providing the technical and market information, in order to industrialize the products. In exchange, Actua asks for a goodwill contribution and engineering service fee for the finalization of the product.

- **Licensing the final product**

**License fees** and later royalties provide a cash flow recouping the previous investments in the technology.

Actua further offers a minority stake in the newfound company when the product is ready for the market.

*Partner is typically a multinational company willing to innovate their core business or widen their technology footprint or area of investment.*

# Technology and product portfolio

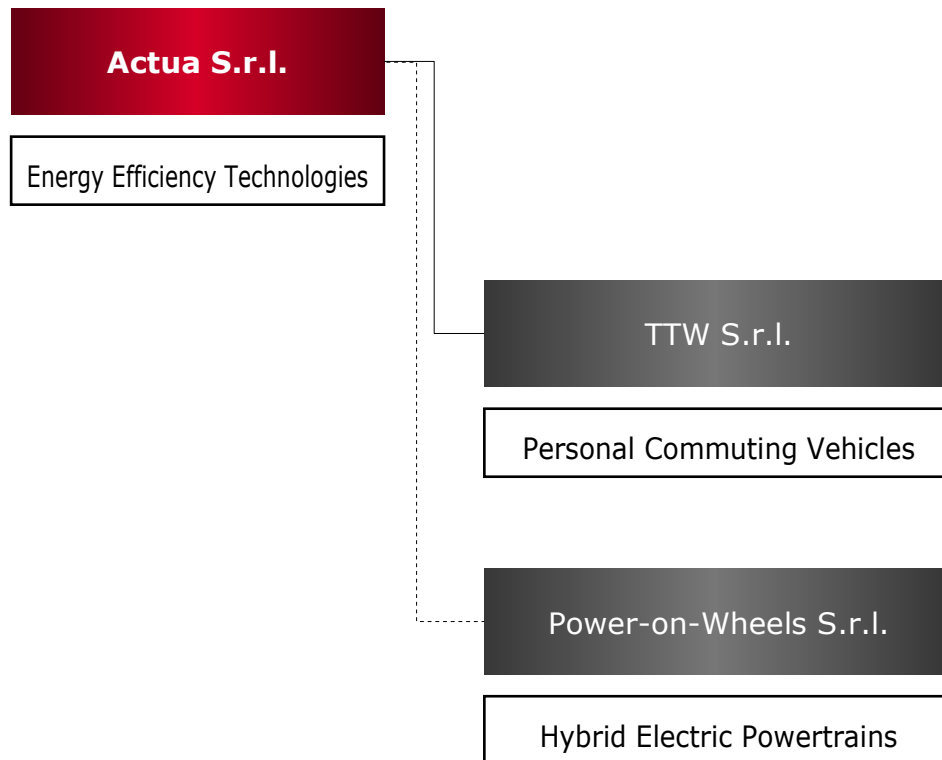
# Actua leverages on its specific competences to create new Energy Efficiency products and possibly trademarks/brands

## ACTUA product lines and competence fields

		<i>Competence fields</i>							
		<b>Electronics</b>		<b>Special Electrical Machines</b>	<b>Dynamics</b>			<b>Real-Time ICT</b>	
		Control	Power			Motion Control	Rotor	Vehicle	Software
<b>Product lines</b>	<b>ActuaTech</b> Actuation and Control Systems	◆	◆		◆			◆	◆
	<b>Power-on-Wheels</b> Electric and/or hybrid powertrains	◆	◆	◆	◆		◆	◆	◆
	<b>Drive-by-wire</b> x-by-wire solutions	◆	◆	◆	◆		◆	◆	◆
	<b>AMB/AMD</b> Active Magnetic Bearings and/or Dampers	◆	◆	◆	◆	◆		◆	
	<b>WSAN</b> Wireless Sensor and Actuator Networks	◆	◆					◆	◆

◆ Competence applied in product line

# Actua holding(s)



**Actua is becoming a holding company for Energy Efficiency Technology development, transforming cluster technologies into real products.**

**TTW** is manufacturing a small series of an innovative Personal Commuting Vehicle dedicated to the environmentally minded driver. TTW will participate in the 2009 Progressive Automotive X PRIZE competition for super-efficient vehicles.



# Actua S.r.l. in short

