

# Energy Harvesting

Recovering energy from waste heat



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October 21-22, The Business Booster / Berlin

European industry ....

**A BIG PROBLEM**

**140TWh/year**

**70 M CO<sub>2</sub>Tones**

**2.100 M€**





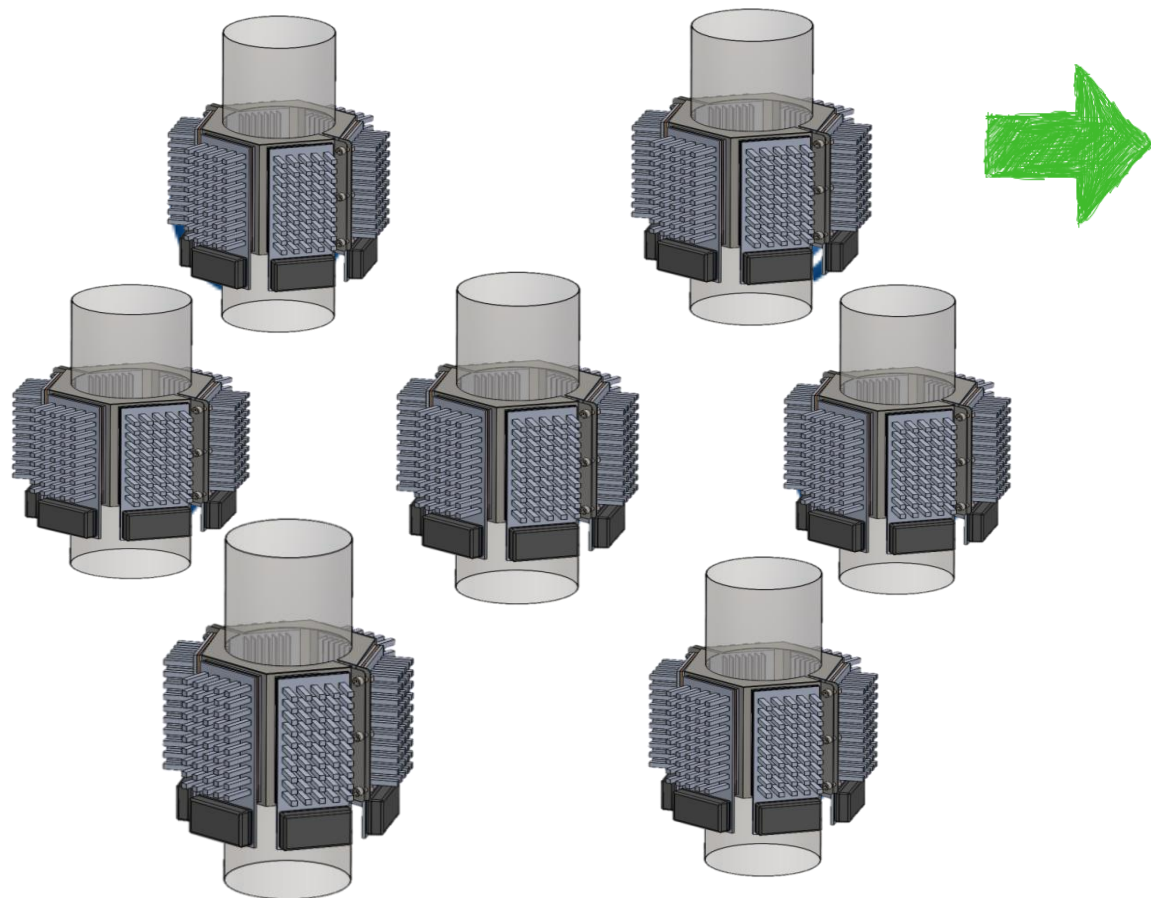
Jet Propulsion Laboratory  
California Institute of Technology



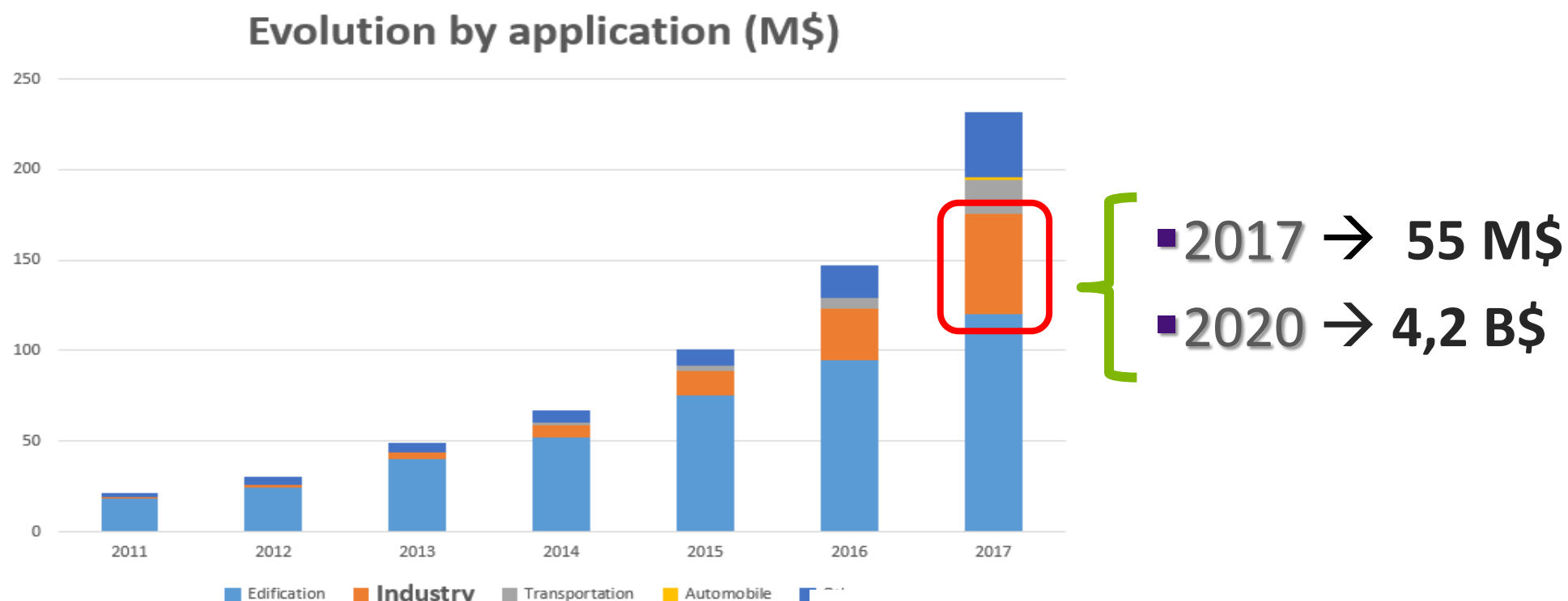
Voyager 2 at Saturn - August 1981

## Application

- ❑ WHRU from heat pipe / chimney generating **50-500 Watts.**
- ❑ Reduction up to **60%** temperature emissions.
- ❑ Wireless Real Time monitoring system using FI-WARE BIG DATA Tech.



## Market and competitors

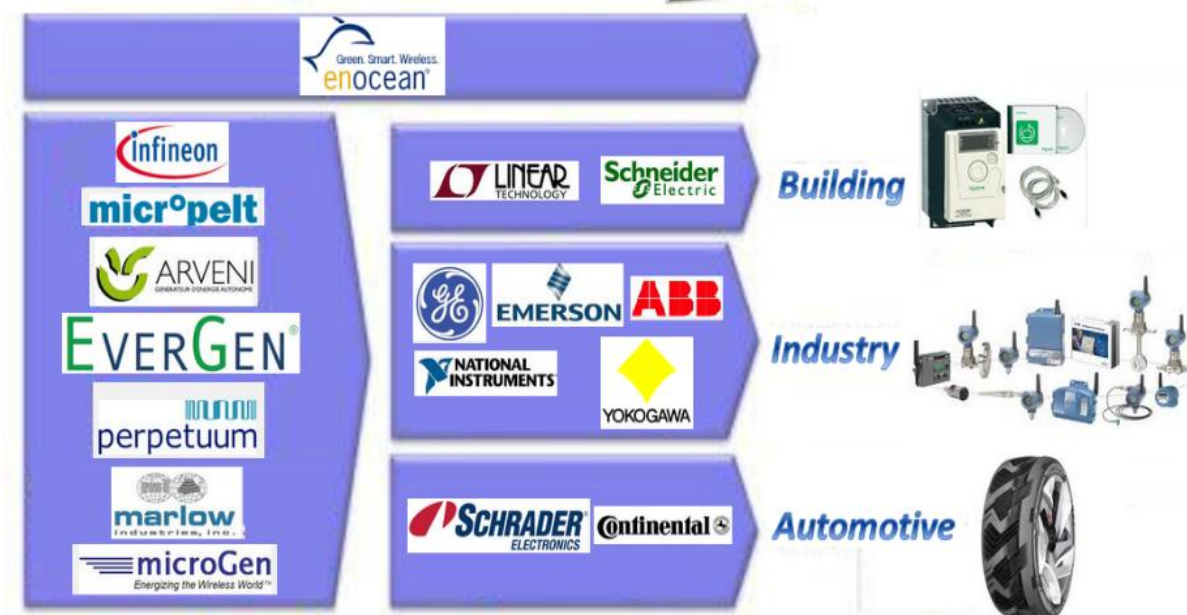


### Competitors' differentiation

- ❑ **Patented** scalable technology.
- ❑ **Any Sensor anywhere.**
- ❑ Complete **pipe surface adaptation.**













Energy Harvester transducer

Wireless sensor modules





## Customers and alliances

Cliente	First Meeting	R-NDA	R-Contract	PVA	Offer	Negotiation	Closed sell
 SEAT							
 CIMENTOS MOLINS INDUSTRIAL							
 AQUALOGY							
 GIE Automotive							
 BAXI							
 Termes Victoria							
 REPSOL							
 AIR LIQUIDE							
 enagas							
 Volkswagen							
 BIONATUR BIOTECHNOLOGIES							
 CRODA							

### First early adopters

- ☐ Big Industry (chemical, automotive, aluminum, cement, boilers, gas).
- ☐ Low power generators for sensing-
- ☐ Solar.

### Strategic alliances

- ☐ ROI and LCOE reduction.
- ☐ Shared developments.







Banca

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Award and Jury



Awarded a coaching trajectory by Set Squared Partnership



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pilo, "recuperadores de energia", para el sector



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# Thank you

## Any questions?

