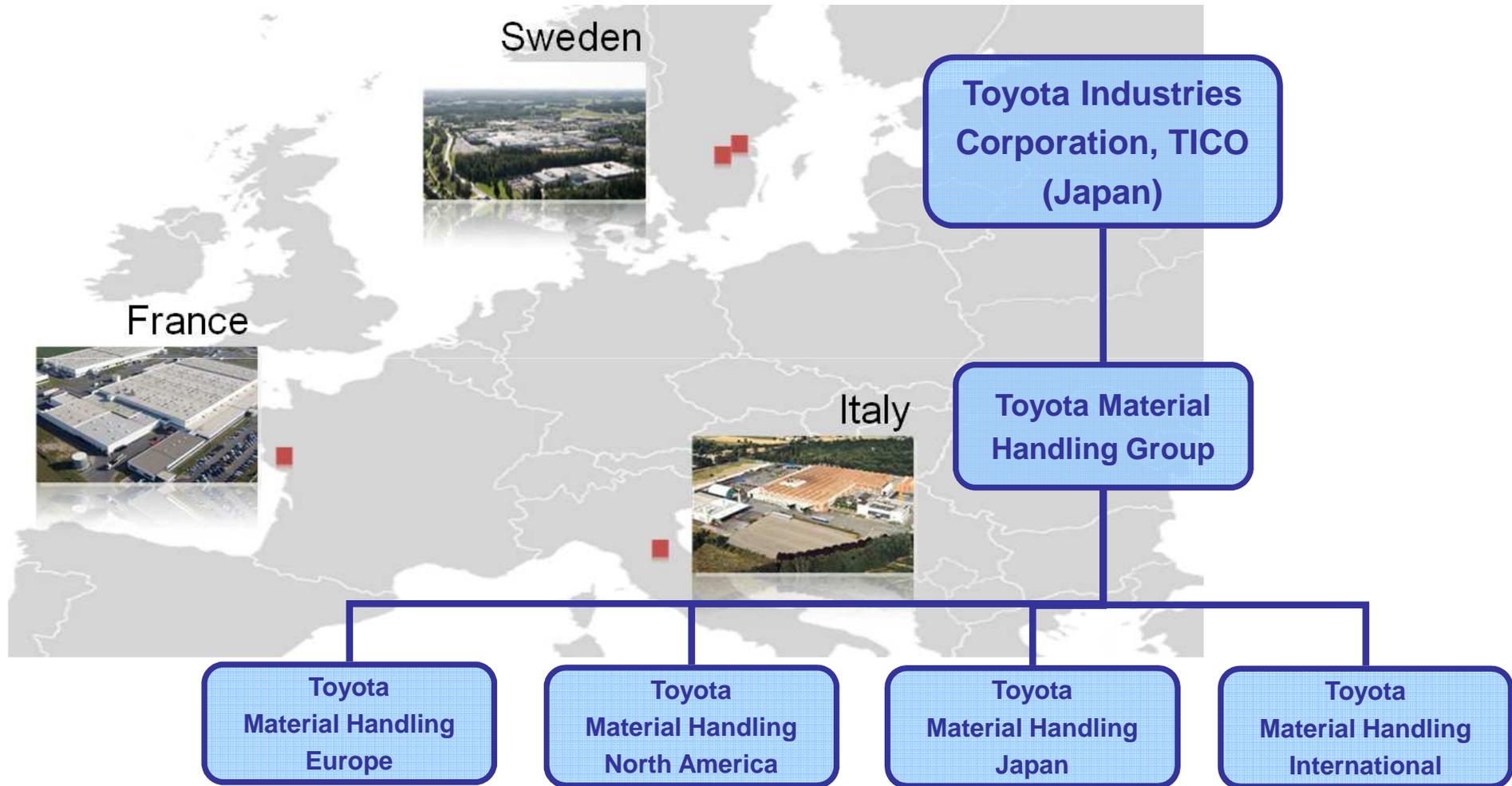


# CESAB Presentation

*Rodolfo Occari*

# Eco-Design e Substances of Concern Analysis

# Cesab S.p.A.



# Cesab S.p.A.

Stabilimenti  
e Gamma

 **TOYOTA**  
INDUSTRIAL EQUIPMENT



**TMHG**



**RAYMOND**  
*Above. And beyond.™*



**TOYOTA**

# Cesab in numeri



Products	<b>E</b> and <b>IC</b> CB's forklift trucks
Turnover (31.03.09)	145 M€
Brands	BT, CESAB, Raymond, Toyota
Employees	385
ISO 9001	year 2000
ISO 14000	year 2006
OHSAS 18001:2007	year 2009 (April)
Site	67000 m <sup>2</sup>
Covered	22800 m <sup>2</sup>
Offices	2800 m <sup>2</sup>

# ***POLITICA AMBIENTALE TOYOTA***

**Responsabilità  
sociale**

**Cooperazione**

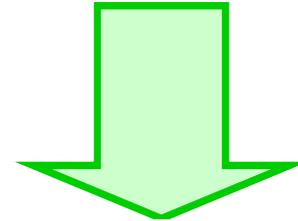
**Crescita  
economica e  
salvaguardia  
ambientale**

**Sviluppo sostenibile**

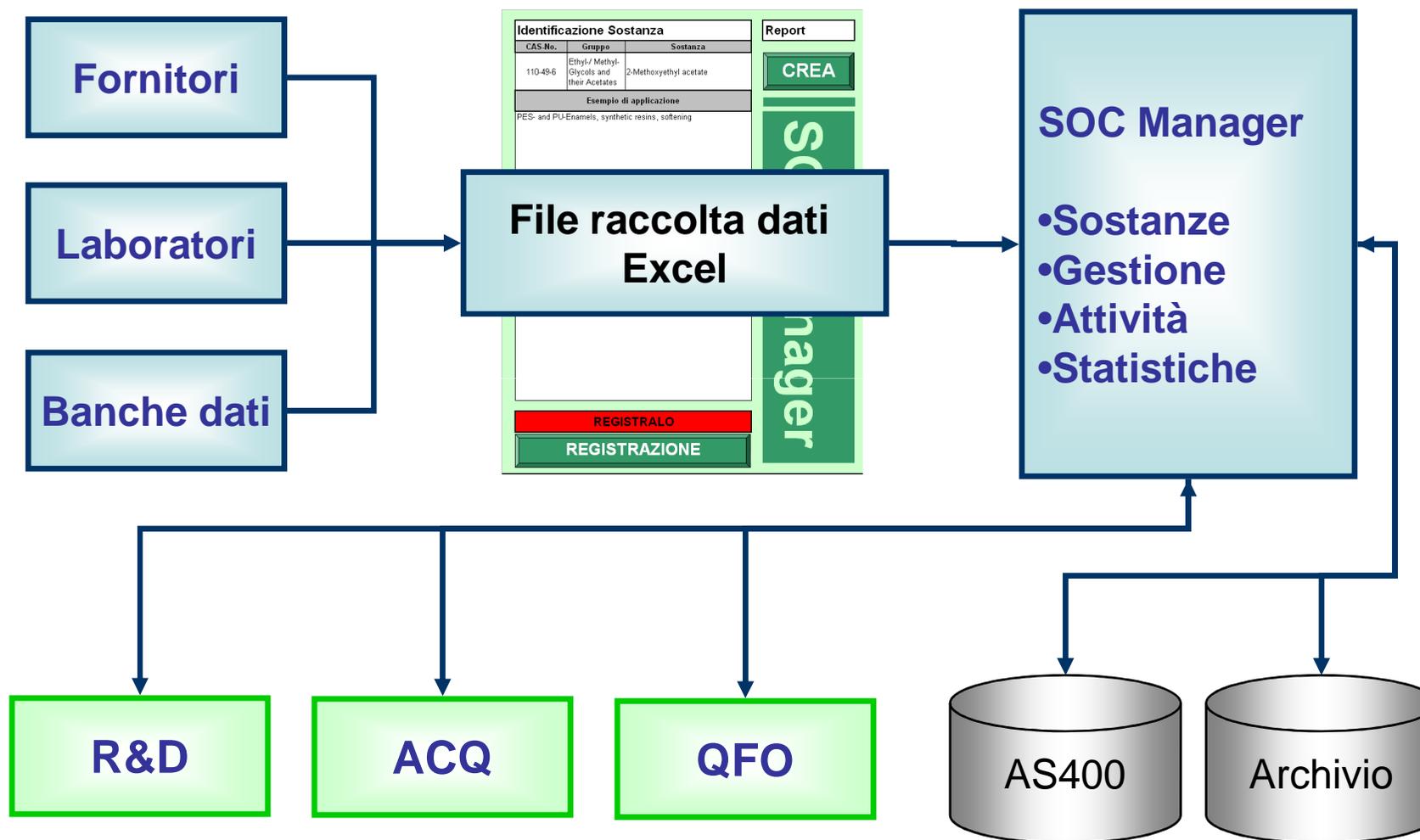


# Obiettivo e struttura

Diminuire l'impatto ambientale dei carrelli elevatori



# Sistema di raccolta e gestione dati



# Eco-Design

Applicare metodologie di progettazione che valutano gli aspetti ambientali

The screenshot shows a complex design study sheet with multiple sections. On the left, there are fields for 'Component Part Name', 'Accession Profile', and 'Production site'. The main area contains a 'Design Study' section with a 3D model of a part and several text boxes detailing design goals and constraints. On the right, there is a 'Material Classification' table with columns for material type and properties. At the bottom right, there is a 'Readiness Quality Index (target)' table.

Definizione degli Obiettivi: Design Study Sheet

This screenshot shows a different section of a design study sheet. It features a 3D model of a part with callouts for design objectives. A prominent feature is a cost comparison chart with two bars: 'Final - Resin Mold 20000Euro (rough estimate cost)' and 'Form-Free Bending 2000Euro (rough estimate cost)'. Below the chart, there are several text boxes and a table with columns for 'Material', 'Cost', and 'Weight'.

## Strumenti

DfE tools

Design Matrix

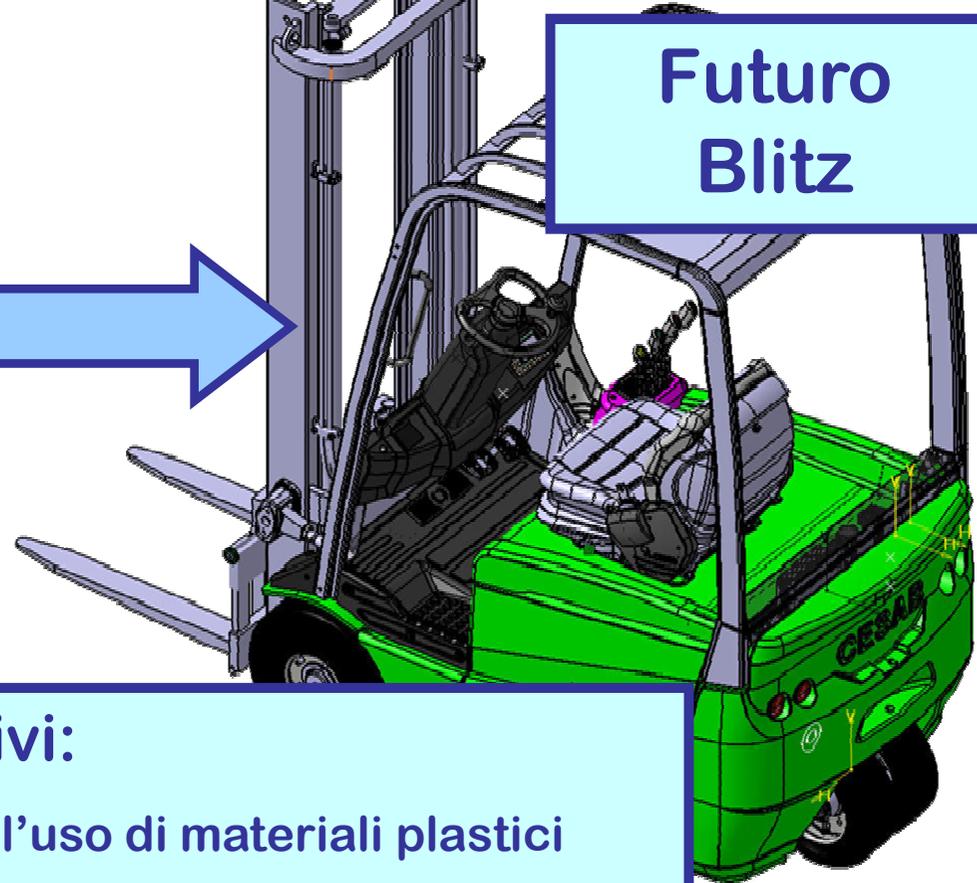
The screenshot shows a Design Matrix table. The table has columns for 'Activity for environment', 'Concern for establishment of', and 'Concern File Name (Link)'. The rows list various environmental concerns such as 'Investigation for banned environmental substances', 'Heavy and Medium compounds', and 'Mercury and Manganese compounds'. The 'Concern for establishment of' column contains text like 'Redesign or reduction of', 'Reason continue to use', and 'Reason continue to use'. The 'Concern File Name' column contains links to documents like 'Redesigning with Acetal Resin' and 'Designing with composite truck'.

Confronto fra soluzioni alternative

# Applicazione Eco-Design



**Attuale  
Blitz**

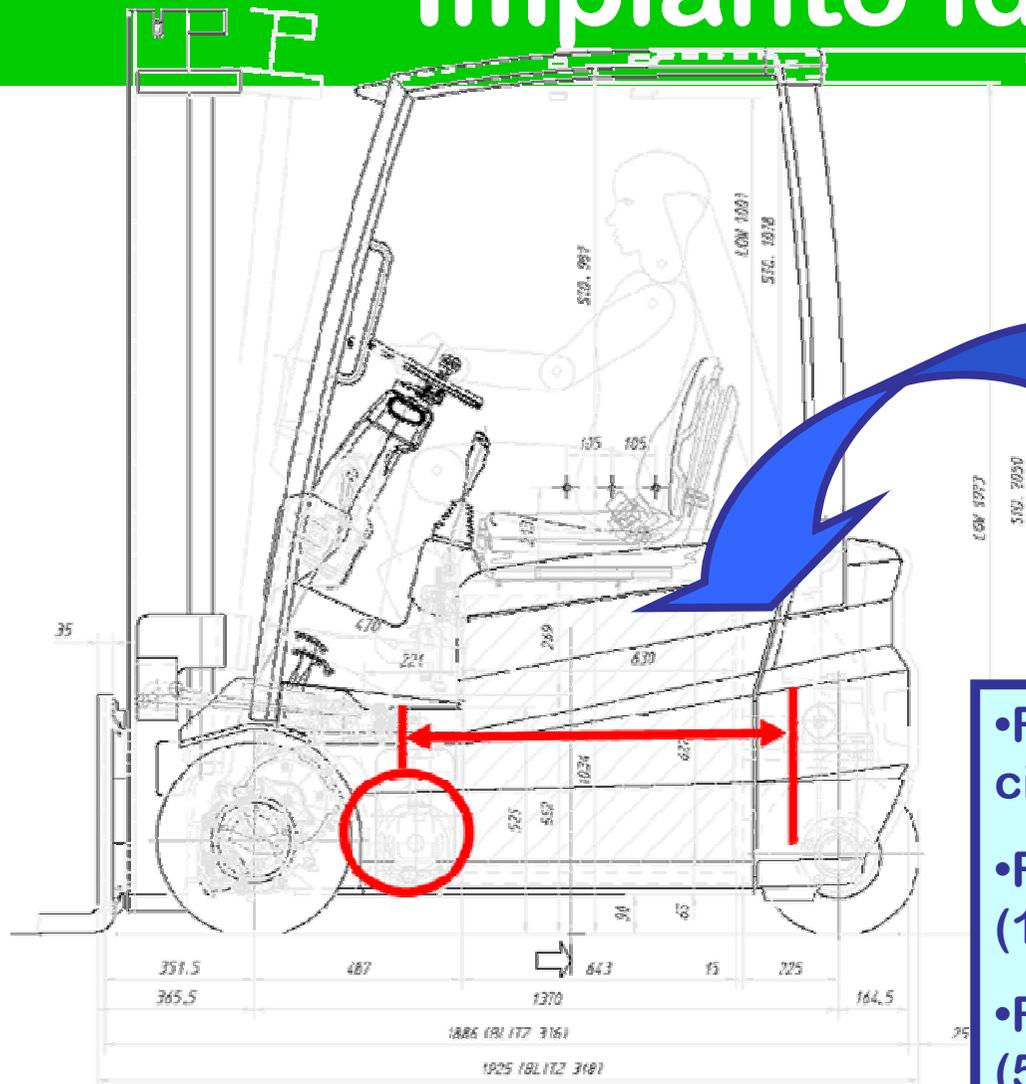


**Futuro  
Blitz**

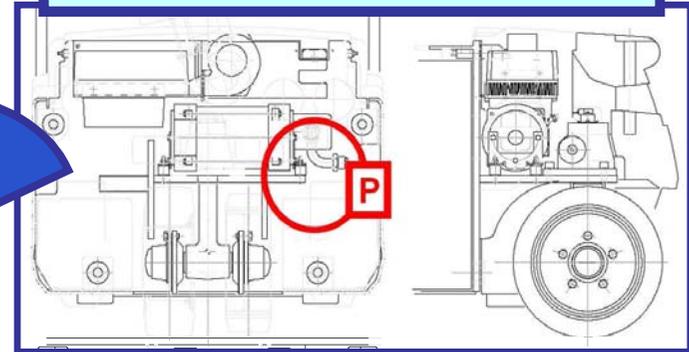
## Obiettivi:

- Ridurre l'uso di materiali plastici
- Ridurre il numero di componenti
- Aumentare la riciclabilità

# Impianto idraulico

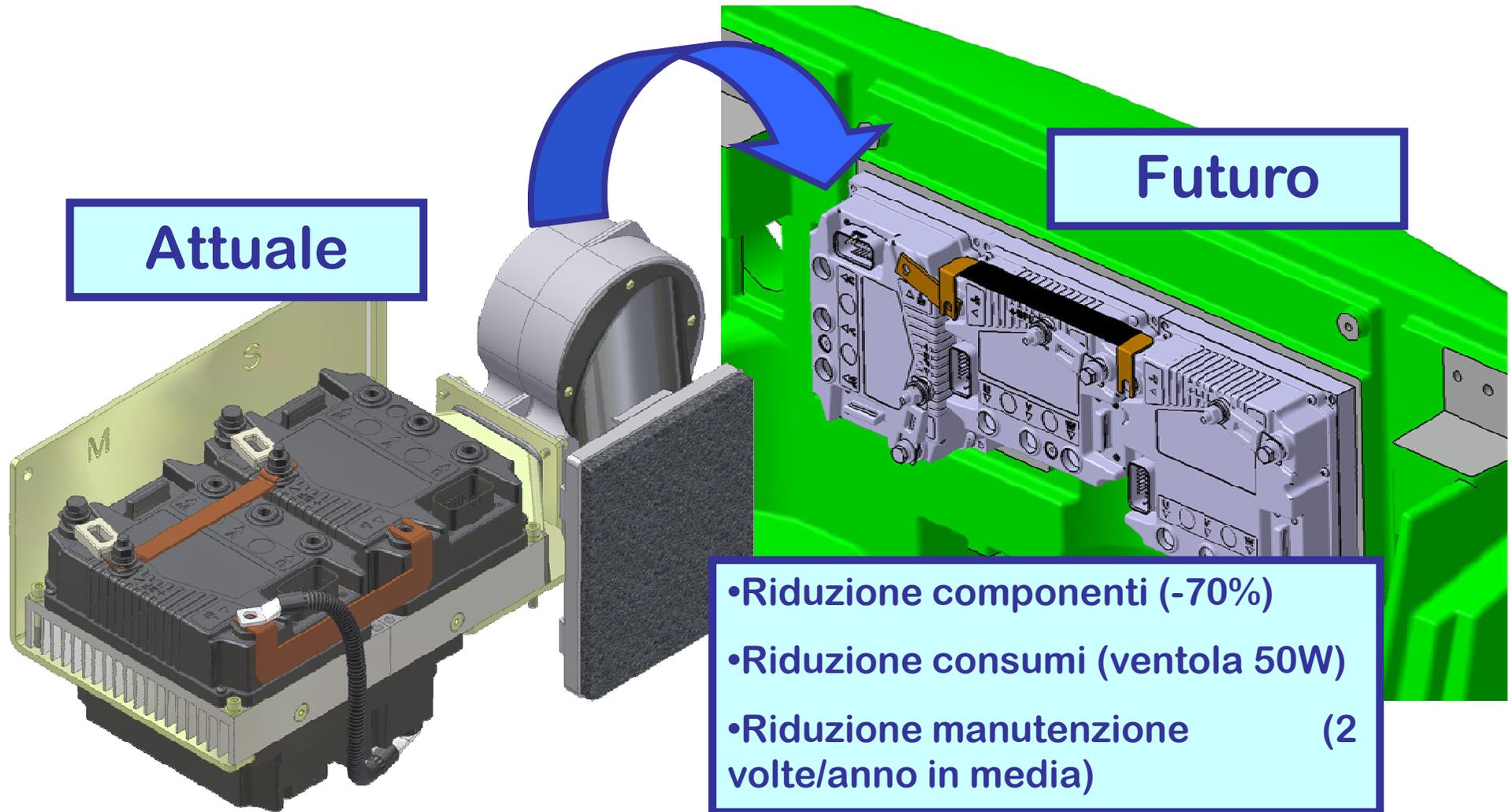


## Attuale lay-out



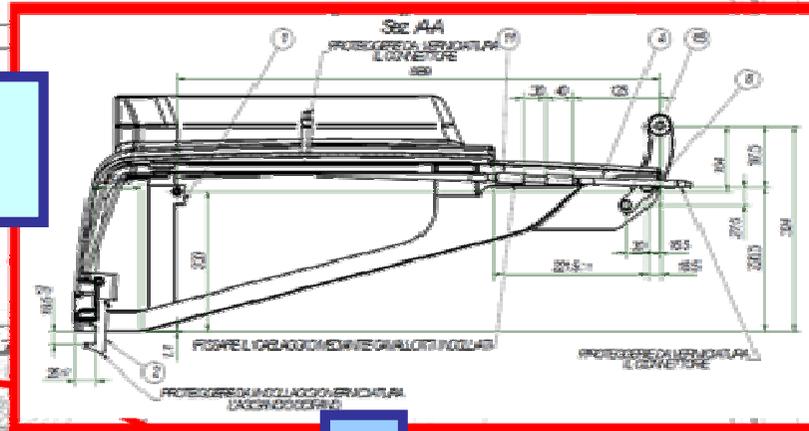
- Riduzione materiale (2500 mm circa)
- Riduzione ingombri (1930 mm-1780 mm)
- Riduzione tempi assemblaggio (5min circa)

# Moduli di trazione



# Cover e Riduzione Plastiche

Cofano  
plastico: 5,5 Kg



Eliminazione delle  
plastiche

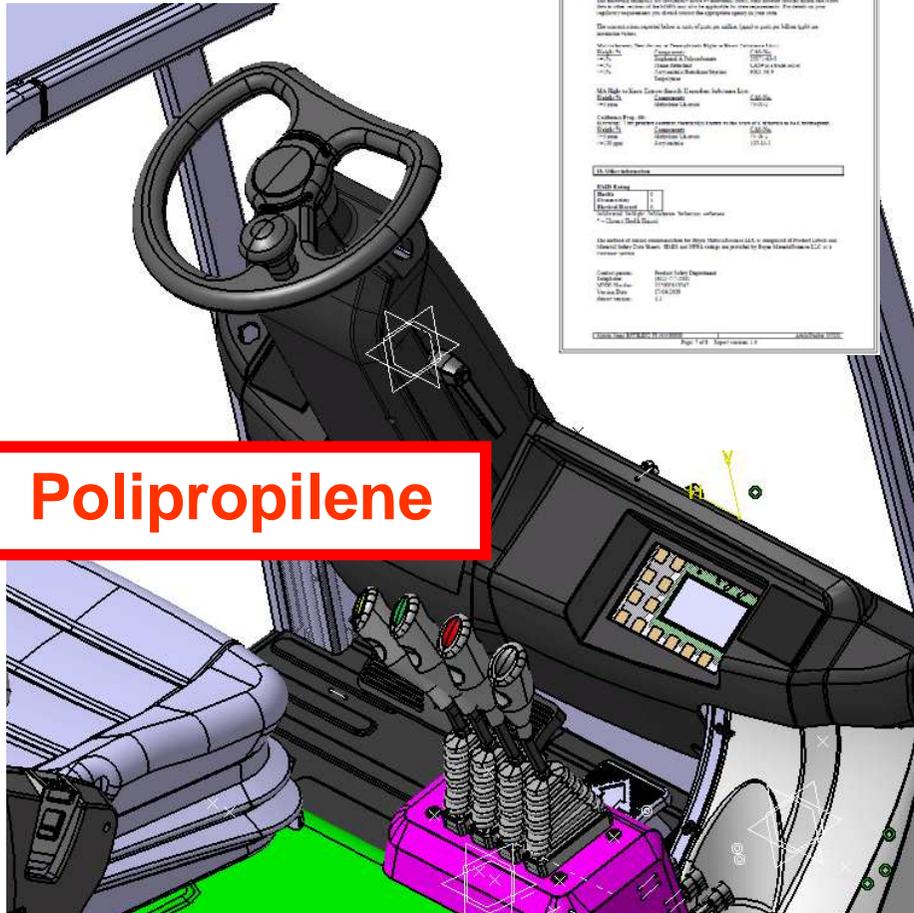
- Utilizzo di una  
maggiore  
percentuale di  
acciaio

- Aumentata  
riciclabilità

- Aumentata durata  
dei componenti

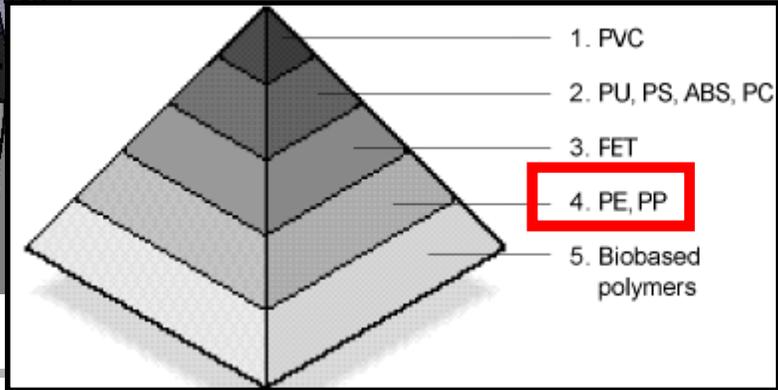
- Eliminazione colle  
e adesivi

# Scelta Plastiche



**Polipropilene**

- Standardizzazione delle plastiche
- Scelta di materiali a basso impatto
- Eliminazione sostanze nocive Substance of Concern Project (111gruppi di sostanze monitorate 2500 sostanze circa)
- Identificazione dei materiali



# Conclusioni

- Raccolta una grande quantità di dati
- Il sistema li rende strutturati e fruibili da diversi enti aziendali
- Procedura snella di applicazione DfE con risultati tangibili

Dall'input di Toyota e ISO14001 si sono sviluppate nuove soluzioni con vantaggi oggettivi

