e-CUSTOM
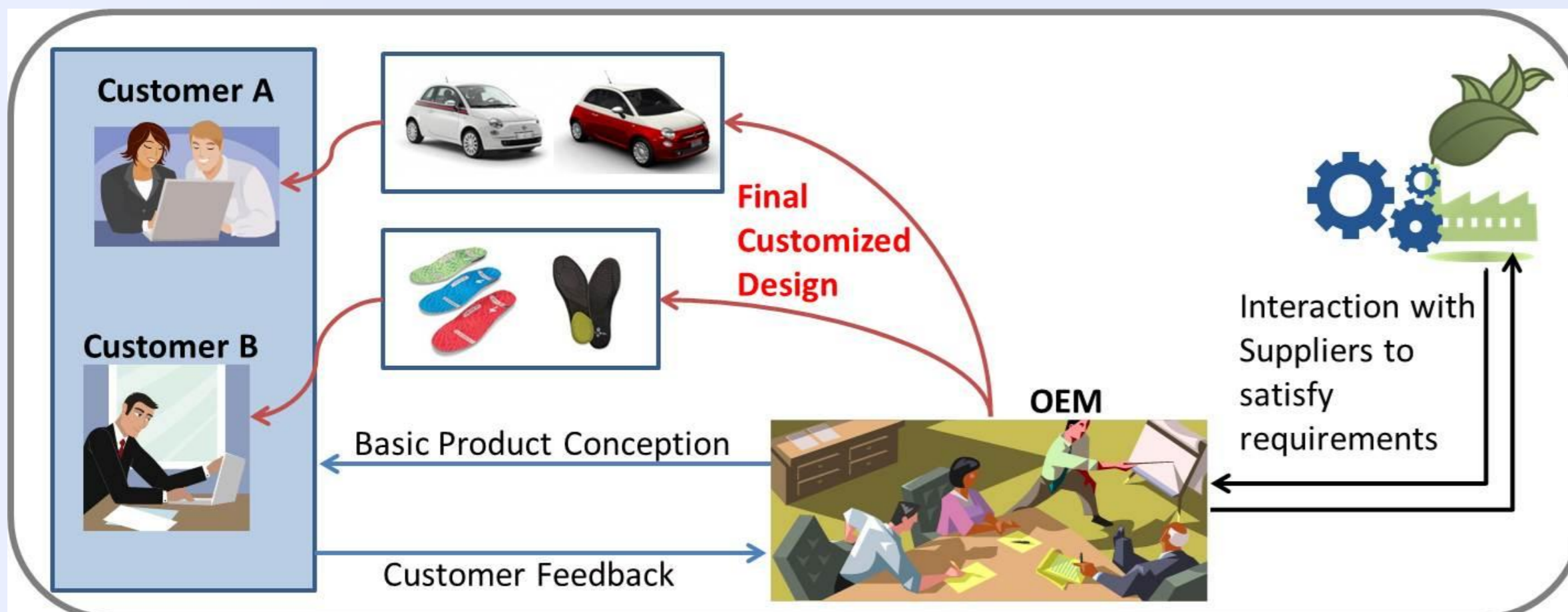## Factories of the Future

SEVENTH FRAMEWORK PROGRAMME

"A Web-based Collaboration System for Mass Customization"

Mass Customisation and User Adaptation in the Design

Customer A

Customer B

Final Customized Design

OEM

Interaction with Suppliers to satisfy requirements

Basic Product Conception

Customer Feedback

- **Customer involvement in the design phase of products**
- **User-friendly web-based design tools for online product personalization**
- **Knowledge management, for supporting and coordinating design activities**
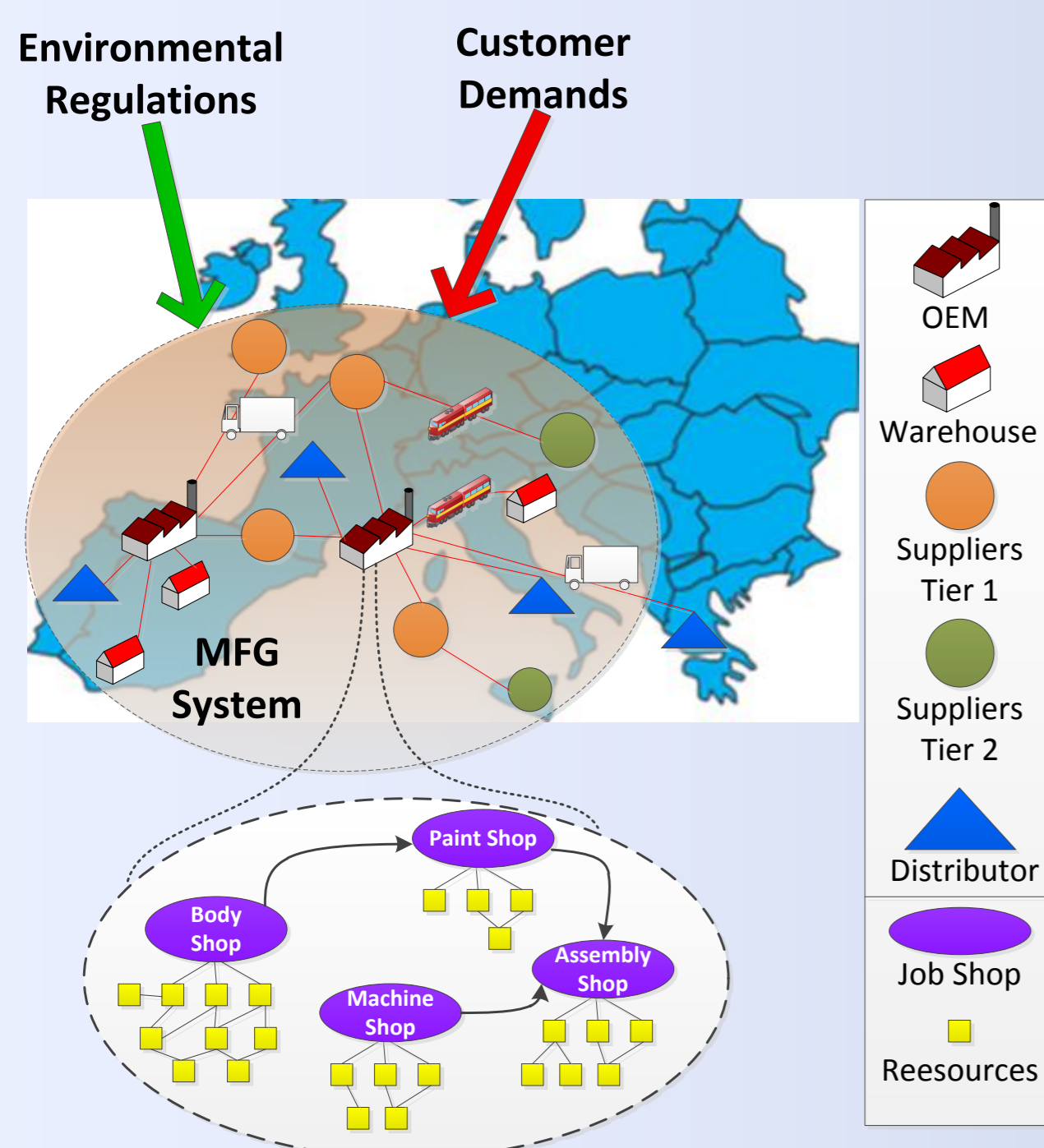
Virtual and Augmented Reality tools

- **Immersive Virtual Reality Presentation**
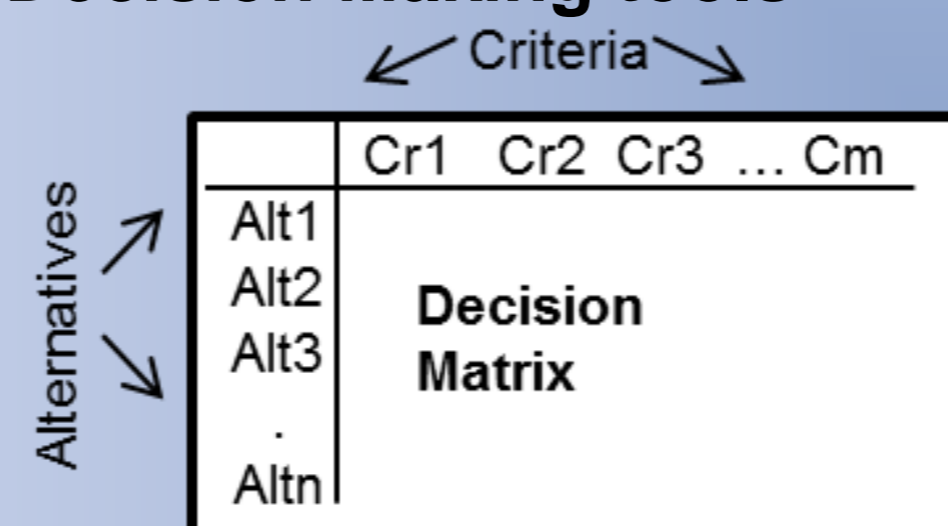- **3D Brower Plugin for online product manipulation**

- **Augmented Reality 3D visualization**

Decentralized Manufacturing

Environmental Regulations

Customer Demands

MFG System

Paint Shop
Body Shop
Assembly Shop
Machine Shop

OEM
Warehouse
Suppliers Tier 1
Suppliers Tier 2
Distributor
Job Shop
Reesources

- **Coordination of the design and production of individualized parts by OEMs and their suppliers in a fast, cost-efficient and environmentally-friendly manner**
- **Automated generation and evaluation of supply schemes by means of web-based networking and Decision Making tools**

← Criteria →

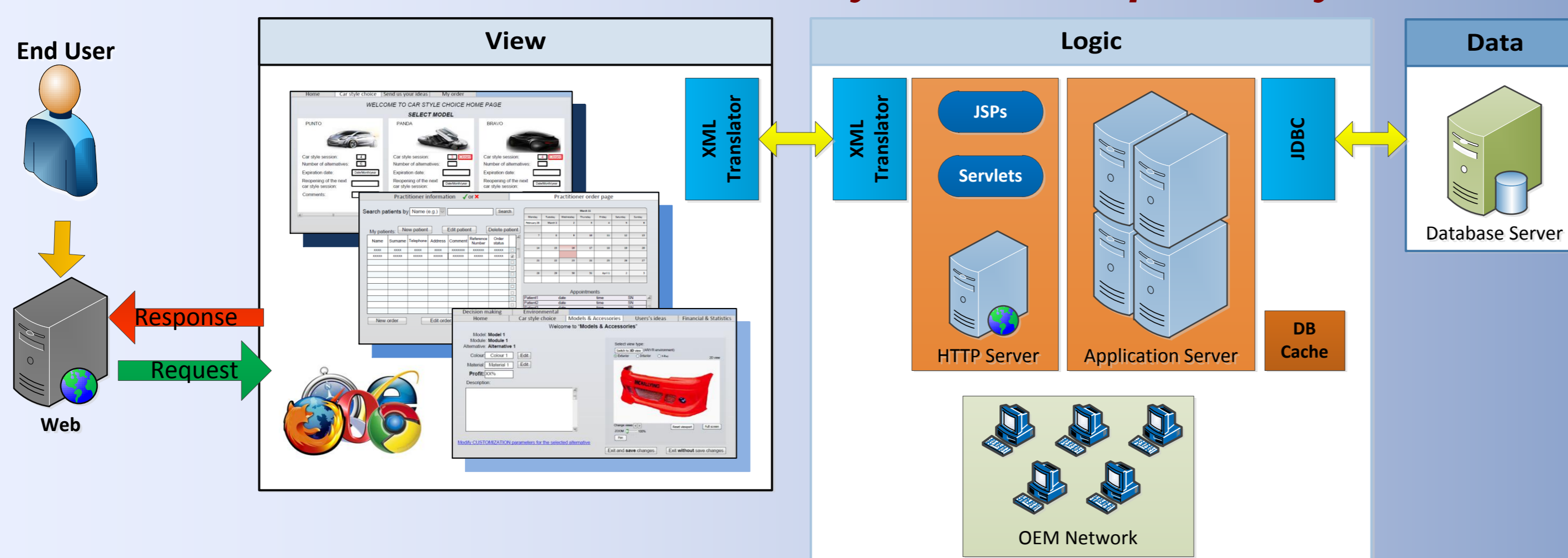|	Cr1	Cr2	Cr3	…	Cm
Alt1					
Alt2		**Decision**			
Alt3		**Matrix**			
.					
Altn					

Alternatives

Environmental Impact Assessment

- **Development of tools and metrics for the measurement and evaluation of alternative manufacturing / supply schemes**
- **Advanced Knowledge Management techniques for systematic reuse of the generated environmental impact knowledge**

Network Infrastructure and System Interoperability

End User

View

Logic

Data

XML Translator

XML Translator

JSPs

Servlets

JDBC

Database Server

Response

Request

Web

HTTP Server

Application Server

DB Cache

OEM Network

- **Network and ICT technologies infrastructures for standardised data exchange**
- **Cooperation and Collaboration among user groups throughout the product lifecycle**

Expected Impact

Innovations

- **Energy consumption by 5%-10%**
- **Transportation costs by up to 20%**
- **Cost of raw materials by 5%-10%**
- **Time-to-market by up to 15%**
- **Delivery time by 15%-20%**

- ✓ **Shortening of design time for personalized products by up to 15%**
- ✓ **Increase in market share by up to 10%**

Laboratory for Manufacturing Systems & Automation
Director: Professor George Chryssolouris
University of Patras, Greece

For more information visit the e-CUSTOM Project Portal:
www.ecustom-project.eu