Introduction to Robot Showcase
-why we need RT middleware?-

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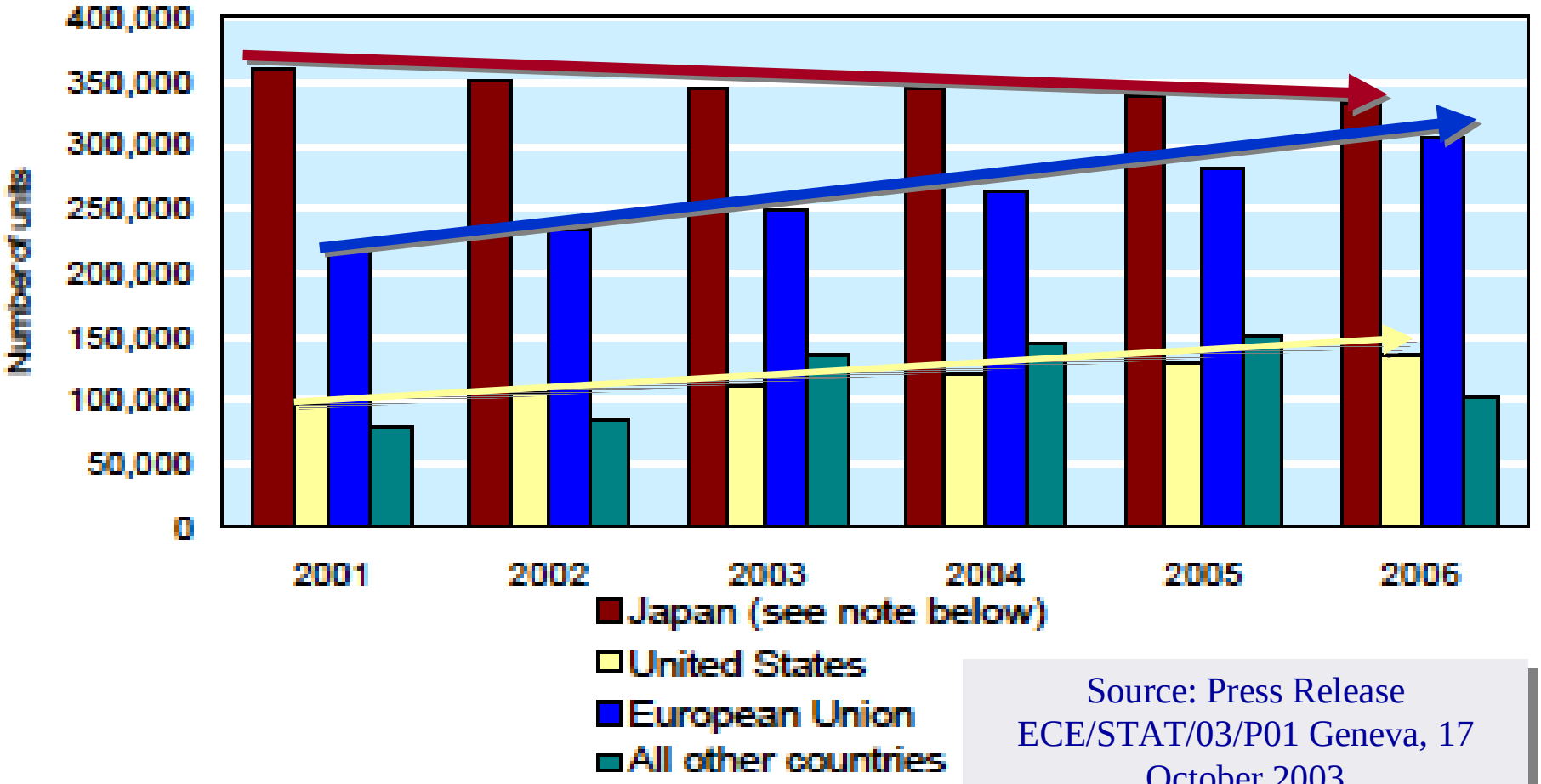
Contents

Industrial Robot

The Number of Industrial Robots used in the World (2003-2006 Predicted Number)



Source: Press Release ECE/STAT/03/P01 Geneva, 17 October 2003

Note 1: Addition to the stock data for Japan included dedicated robots up to and including 2000. Stock data shown

Expanding of Robot Applications
-From Industrial Applications to Non Industrial Applications-

Industrial Robots

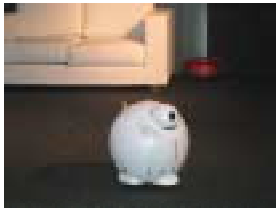
Application Expanding

Rehabilitation and Assistance for Handicapped People

Home Appliances

Guidance and Transportation

Security



Mental Commit

What is the Problems?

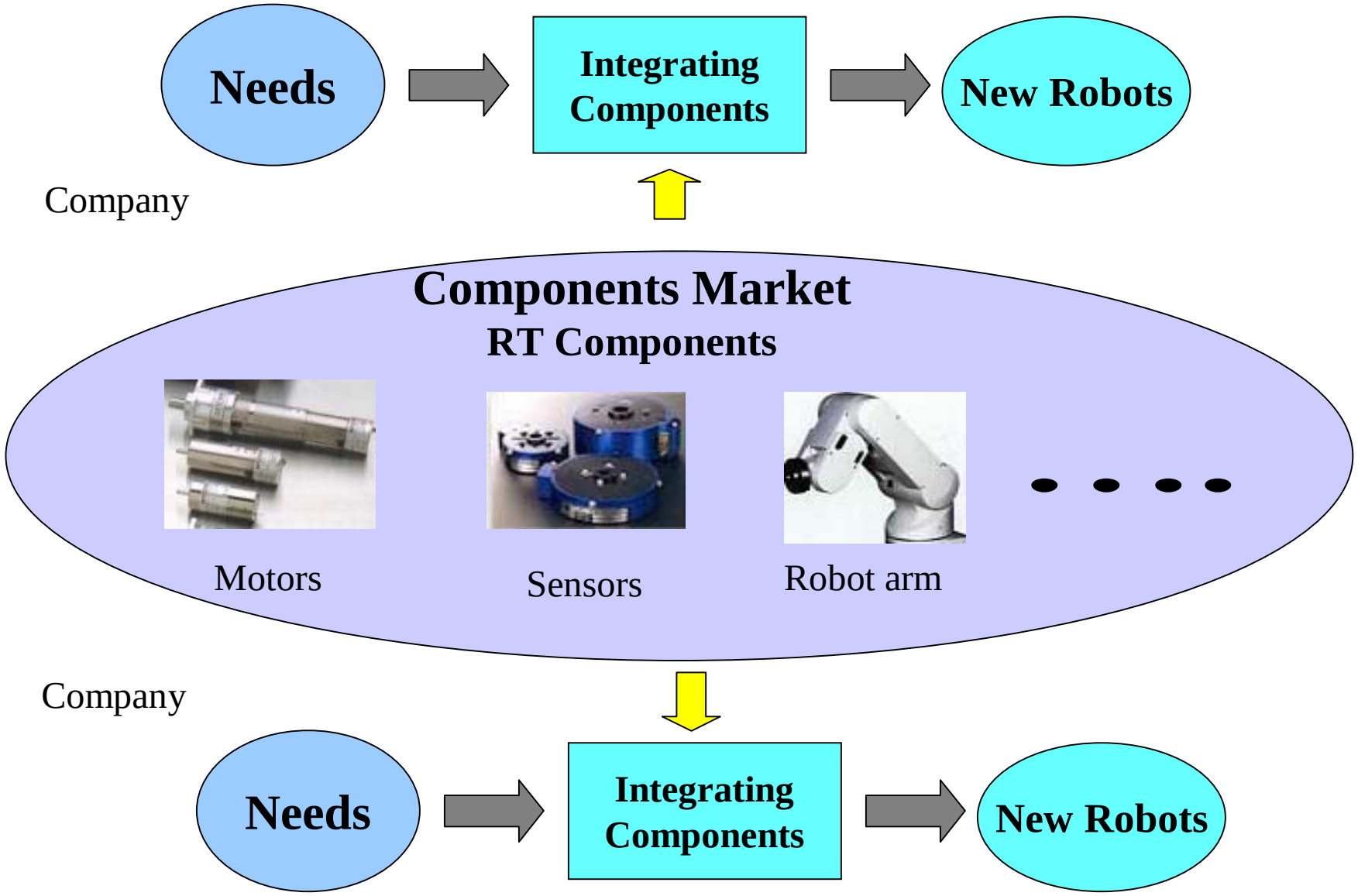
Each user's request is getting personal.

How to provide the good product each user wants to buy?

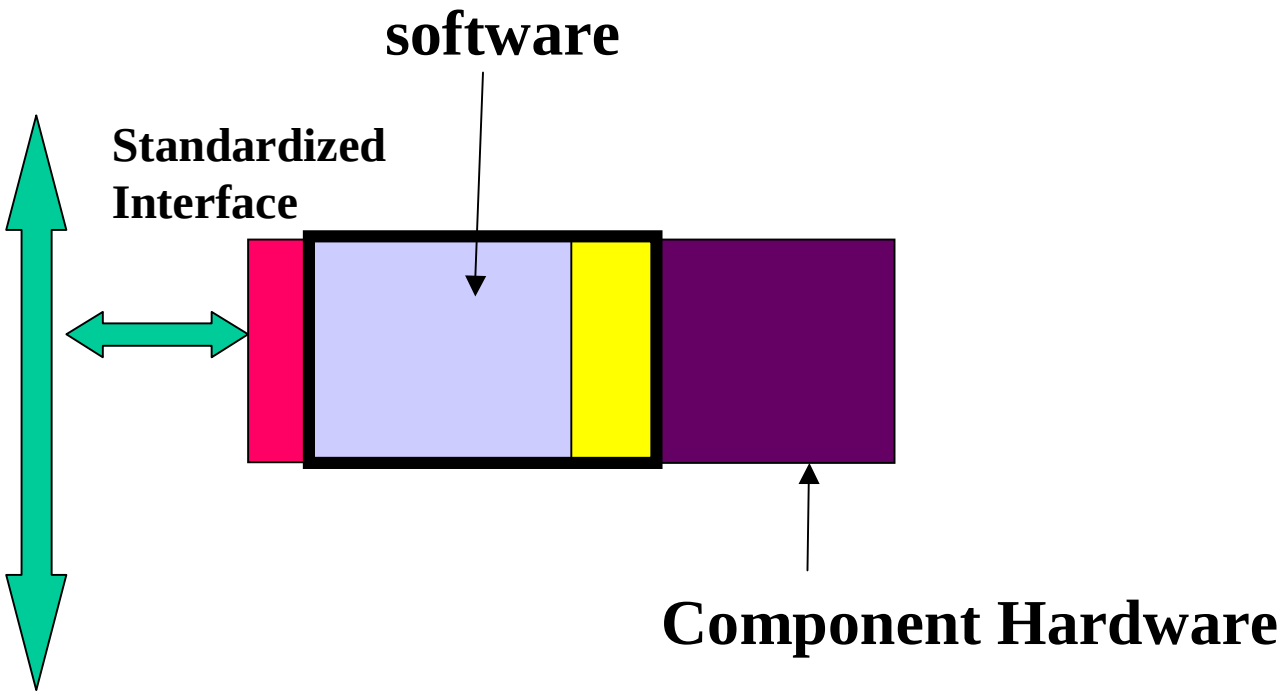
How to design the new products efficiently and quickly?

How to create a new industrial infrastructure which supports the efficient new product design.

How new robotic products will be produced?



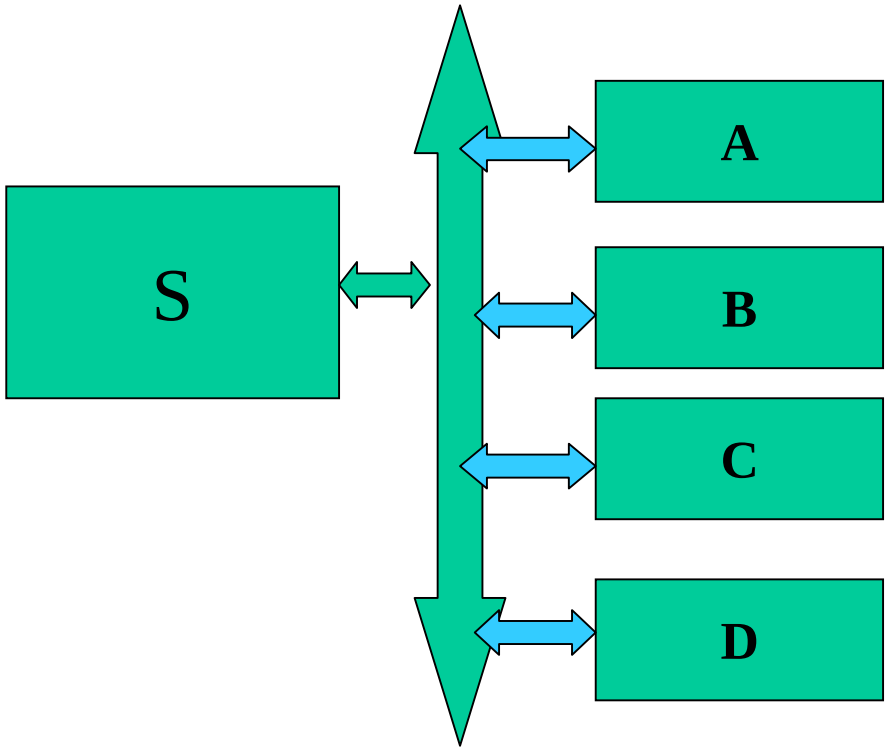
Modularized Component



RT middleware

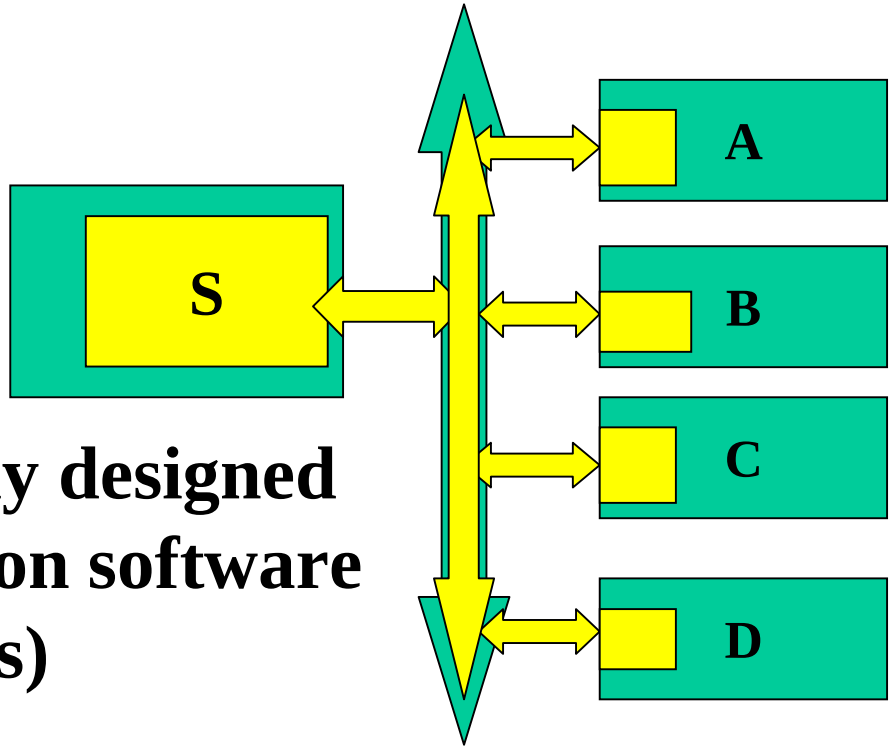
Embedded Computer

Integrated System



Commercially available components

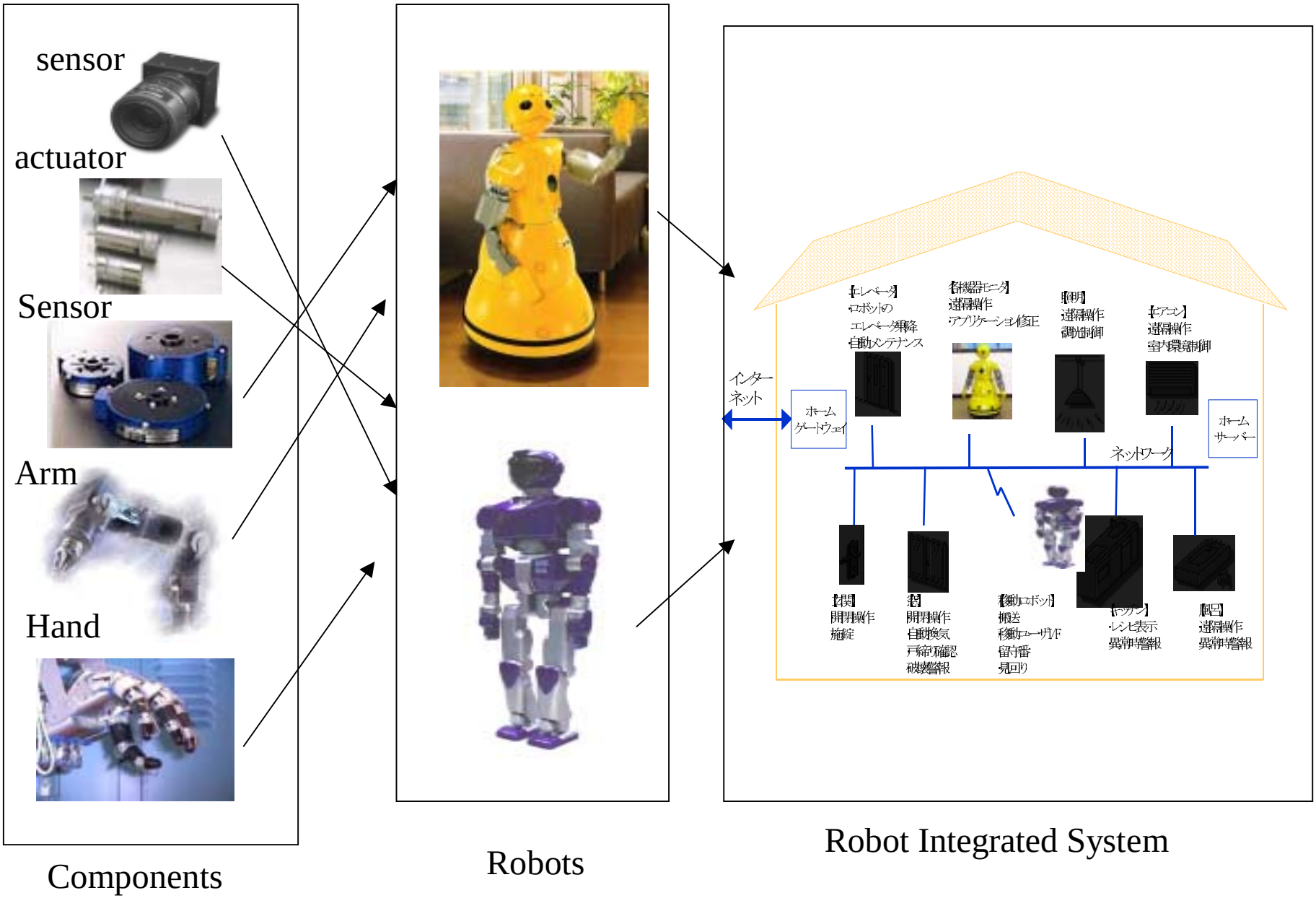
Contents Business



Originally designed application software (Contents)

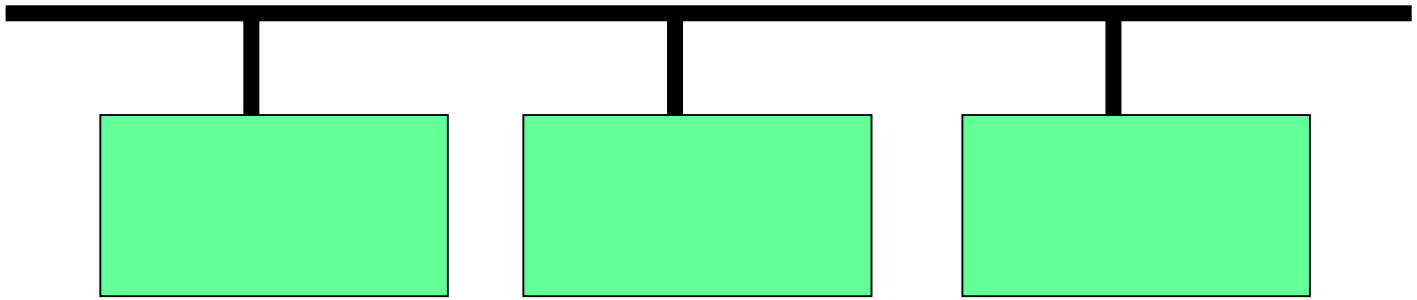
Commercially available components

Embedded software

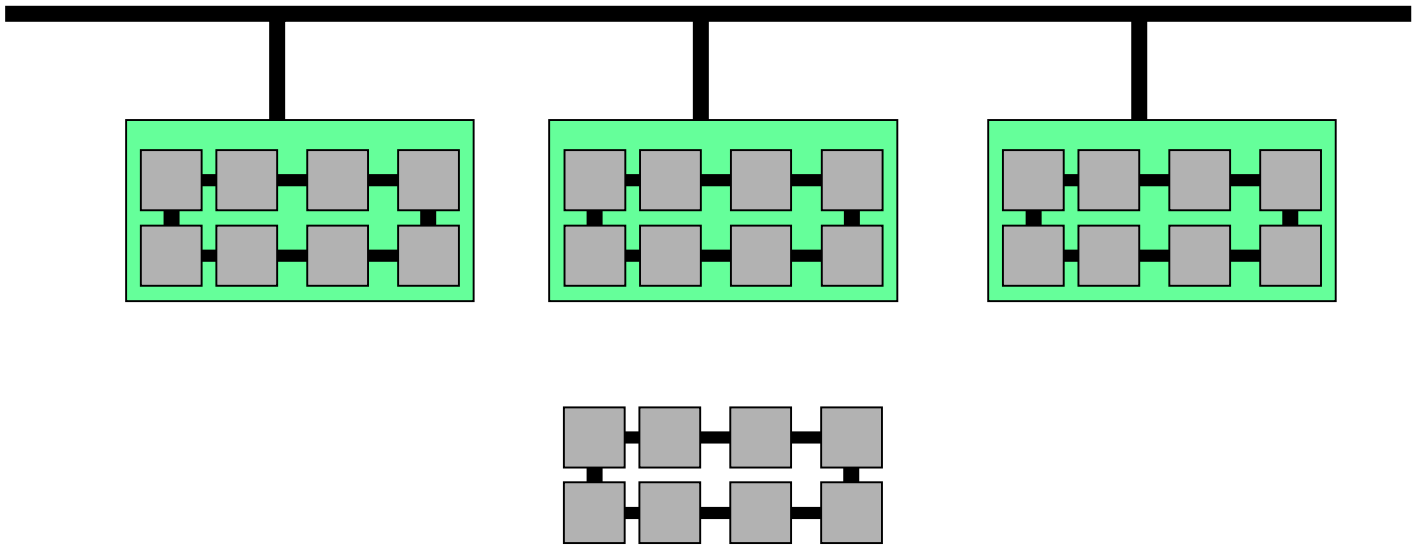

sensor
actuator
Sensor
Arm
Hand
Components
Robots
インター
ネット
ホーム
ゲートウェイ
ネットワーク
ホーム
サーバー
Robot Integrated System

Two kinds of Modularization

Part I （Subsystem）



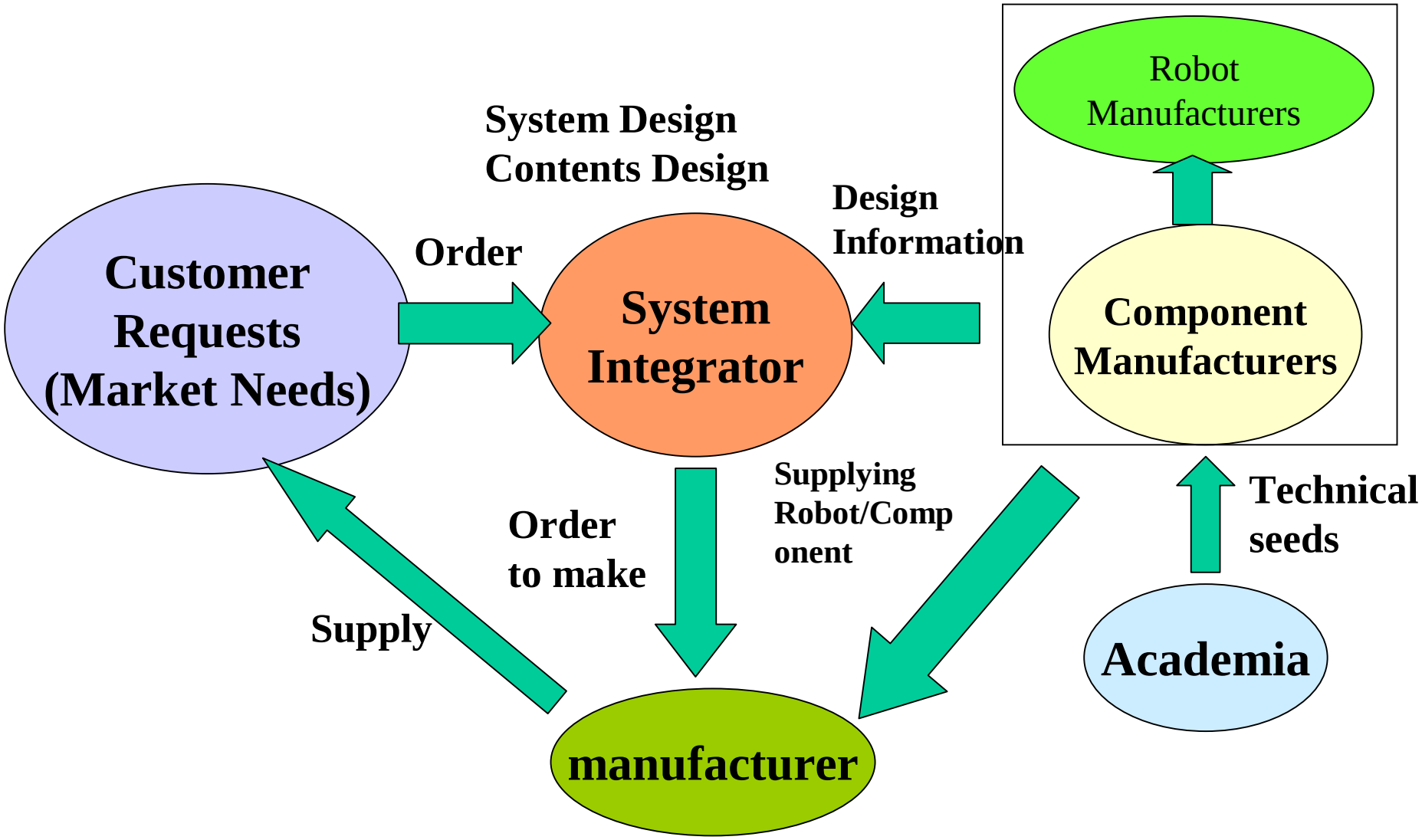
Part II （Component）



Three Kinds of Robotic Businesses

1. **Robot Component Manufacturer**
2. **Robot Manufacturer**
3. **Robot System Integrator**

A Future Robotic Industry Business Model



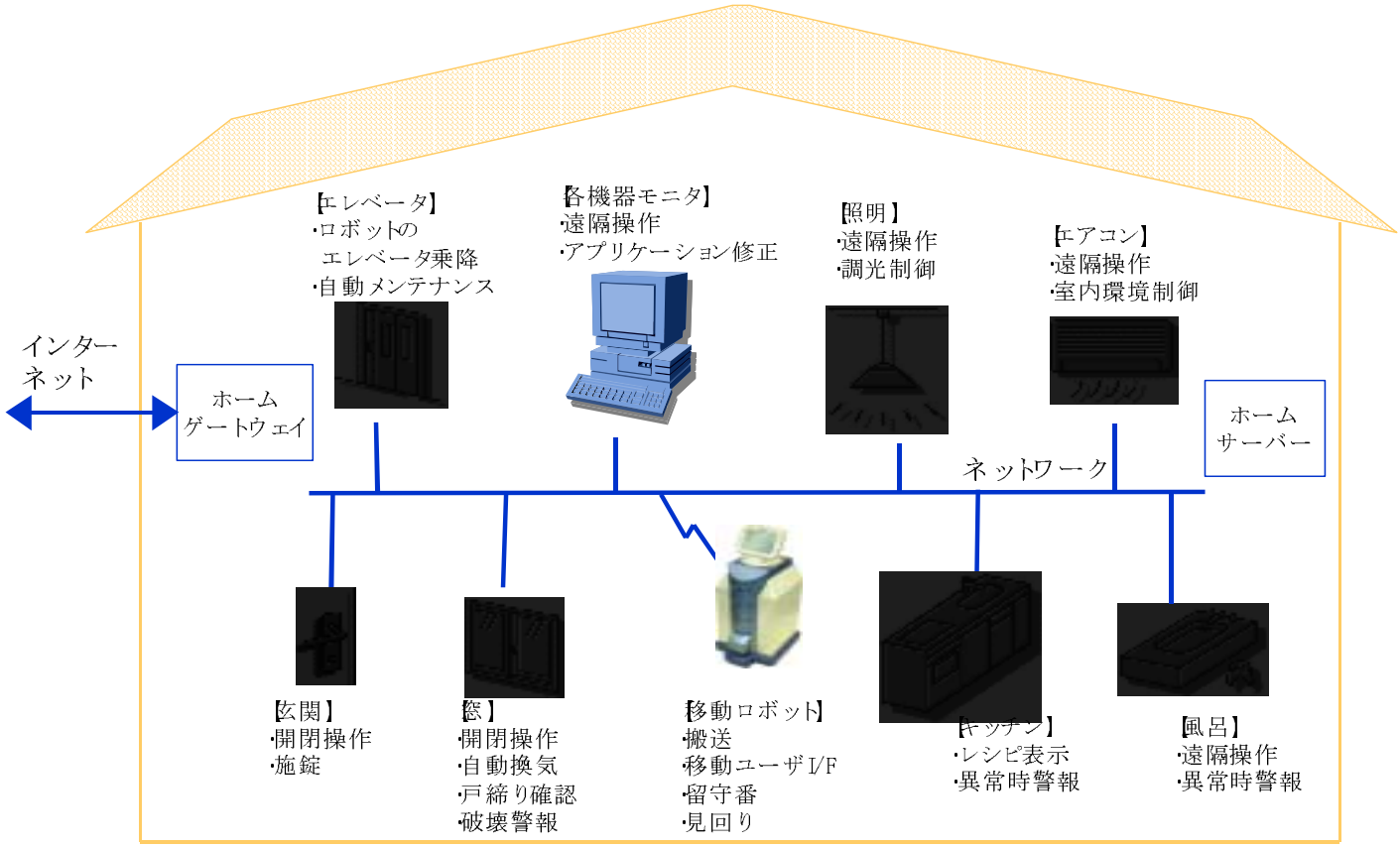


図5　RT要素の統合により設計されるカスタムメイドホームサービスロボットシステムの一例（NEDOミドルウエアプロジェクト）

Thank you