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Revision of the classification scheme according to the last surveys

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Start date of the project: 1 May 2004

Organisation name of lead contractor for this deliverable: IPA

Duration: 48 months

Revision: First version

Dissemination level: PU

Modified Classification for Service Robots for the Their Statistical Survey in World Robotics 2008

Service robotics still is a young and quickly growing industry. From its initial counting scheme, developed by Henrik Christensen (KTH, Stockholm), Martin Haegele (Fraunhofer IPA Stuttgart) and Jan Karlsson (UNECE–United Nations Economic Commission for Europe, Geneva) in 1999 as part of the EURON I Workplan, the classification scheme has been adopted worldwide for collecting data and presenting the markets and forecasts of service robots.

The scheme has been under continuous revisions stemming from market developments ever since in close collaboration with international robotics associations such as the International Federation of Robotics (IFR), the Japanese Robotics Association (JARA), Robotics Industries Association RIA (USA), and KOMMA (Korea).

A major division is the separation of service robots into:

- Professional service robots
- Personal/domestic Robots

These industries are quite different in their customer structure, their products in terms of volumes, price, and technical complexity, and typical company structures.

Business Considerations	
Professional service robotics	Personal/domestic Robots
Empowering people using smart “tools” <ul style="list-style-type: none"> • Interactive • For specific jobs in specific environments 	Sales strategies <ul style="list-style-type: none"> • Compelling application at a competitive price (“Roomba”) • A fashion product which fascinates (AIBO, ...) • Fun, excitement, community experience (toy humanoids)
A credible business case <ul style="list-style-type: none"> • Solving a precise need • Price target, business strategy 	Business case <ul style="list-style-type: none"> • Solving a real problem (vacuuming, entertainment, etc.) • Inventing a new application / a gadget (AIBO, PaPeRo, ...) • (Early adopter) mass products
A functional product <ul style="list-style-type: none"> • Performance data, product quality • Sufficiently robust (during warranty) 	Cost models <ul style="list-style-type: none"> • “Pay by service” (adopted from mobile communication) • Customization
Credible operation, maintenance, training <ul style="list-style-type: none"> • User interface adapted to application • KISS (“Keep It Simple and Stupid”) 	Servicing <ul style="list-style-type: none"> • Avoid dependability • Maintain excitement level (updates, up-scaling, ...)

This year’s counting scheme has been revised as follows:

- Sharpening of the categories defining the types for professional service robots
- Adjustments regarding humanoids within the category “Robots for domestic tasks” and Entertainment robots.

The data solicited from some 210 service robot manufacturers worldwide are:

- Robots sold in 2007, number of units"
- Robots sold in 2007 total turnover in millions of national currency
- Projected sales in 2008-2011 number of units
- Projected sales in 2008-2011 total turnover in millions of national currency

The information is collected until end of May and processed by the IFR Statistical Office. The Chapter on "Service Robots" in the World Report 2008 yearbook will be once again authored by Martin Haegele. For this purpose, all relevant and publicly available material on service robots is collected.

