Everywhere you imagine.

RENESAS

Renesas University Program

Renesas Technology Europe

Promotion Programs

Francesco Anwander

31/03/2021

Official launch of RTE University Program
Embedded World February 2007

Professor Sturm of University Leipzig (awarded) as Professor of the Year 2006 is jointly co-operating with RTE

■ 18 journalists joined Renesas press conference

■ Many articles on
RTE launching university
were issued in the press

**#1 MCU
Reach further
„rucksack"
prepared by
CID for
Embedded
World Fair**

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Renesas University Program – Worldwide on **www.renesasuniversity.com**

Very mature Program successfully running worldwide

Renesas America and Singapore are running the Program for several years

Renesas Europe has run an informal Program for a number of years but has only recently launched an official University Program

RTE now working with RTA on common platform for University Website support

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Renesas University Program – Worldwide on **www.renesasuniversity.com**

… featuring RENESAS INTERACTIVE

Total number of subscribers = ca 38000
Total number of students = ca 4000

Total users

Pie chart percentages: 24%, 11%, 17%, 10%, 2%, 1%, 4%, 4%, 8%, 2%, 11%, 4%, 2%

Legend:
- Designer
- Electronic Sales
- Engineer - Hrd
- Engineer - Sft
- General/Corp. Mgmt
- Manufacturing
- Media or Fin Analyst
- Other
- Research & Devel
- Sales - Other
- Student
- Technical Analyst
- Technical Manager
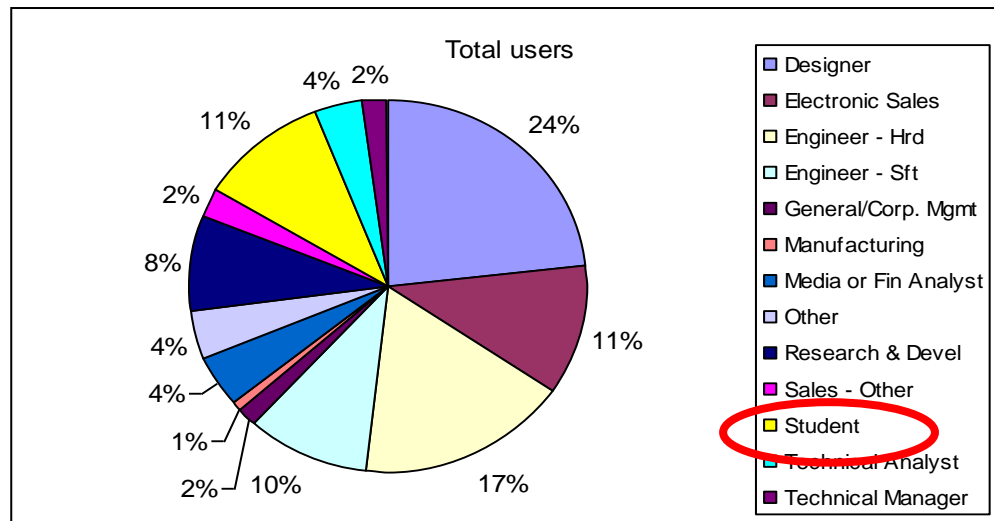
Renesas Interactive provides a convenient Online environment for Customers, Distributors, Alliance Partners and **University Students** to get quality training on both Renesas devices and development tools.

Renesas
INTERACTIVE

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Renesas University Program feat. Renesas Interactive - Virtual Lab

Free Access to Registered Users

Available Online 24/7

Easily accessed from your PC using only a Web Browser

A full suite of Audio Visual Training Courses covering all Renesas MCU Families and application related information

A "Virtual Lab" Development Environment which allows as User to run actual Renesas Hardware & Software over the Web and is not a simulation

Global Certification Program for Distributor FAEs

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Goals of Renesas (RTE) University Program

- Support University teaching staff across Europe to setup labs & teach courses and with Renesas products.

- Provide the standard microcontroller architecture taught in Universities – worldwide!

- Focus on Universities with best in class engineering reputation teaching microcontroller architectures and programming.

- Enable students learning by providing nominated University staff free of charge development tools and benefits from world wide Renesas support infrastructure.

- Provide Universities with contacts to global employers, design houses and of course other European Universities working with Renesas products.

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What do we offer to the Partner Universities

■ Sophisticated Web acces with Renesas Interactive online labs and tools

■ Discounted and free of charge Renesas Starter Kits (RSKs) which enable hands on course/project work based on MCUs/ high level programming language.

■ Supply of literature: Renesas will provide hardware manuals, brochures and application notes for the chosen MCU.

■ Technical support: Renesas will provide direct technical support to up to two nominated members of university staff on tools provided

■ Technology trends
Renesas newsletters inform students and professors on latest technology trends and technical updates on Renesas products.

■ Joint PR

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Focus starter kits for RTE Partner Universities

Device Family	RSK	Preferred Debug Tool	Availability
R8C	RSKR8C25	E8	Now
M16C/62P	R0K33062PS000BE	E8	Now
M32C/87	R0K330879S000BE	E8	Now
SH/Tiny	RSKSH7124	E10A-USB	Now
SH-2A	RSKSH7211	E10A-USB	Q107
SH-2A	RSKSH7201*	E10A-USB	Now

Ethernet plus USB optional communications board available on demand

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Active Universities*

RENESAS

UNIVERSITY PROGRAM

Lulea

Vaasa

Tampere

Helsinki

Göteborg

Strathclyde

Birmingham Hull

Kiel

Warszawa

Warwick Cranfield

Glamorgan

Leuven Leipzig

Exeter

Prague

Munich

Clermont

Padova

Milano

Bologna

Ancona

Madrid

L'Aquila

Istanbul

*Status July 2007

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Logistics and support to RTE Universities

Legend:

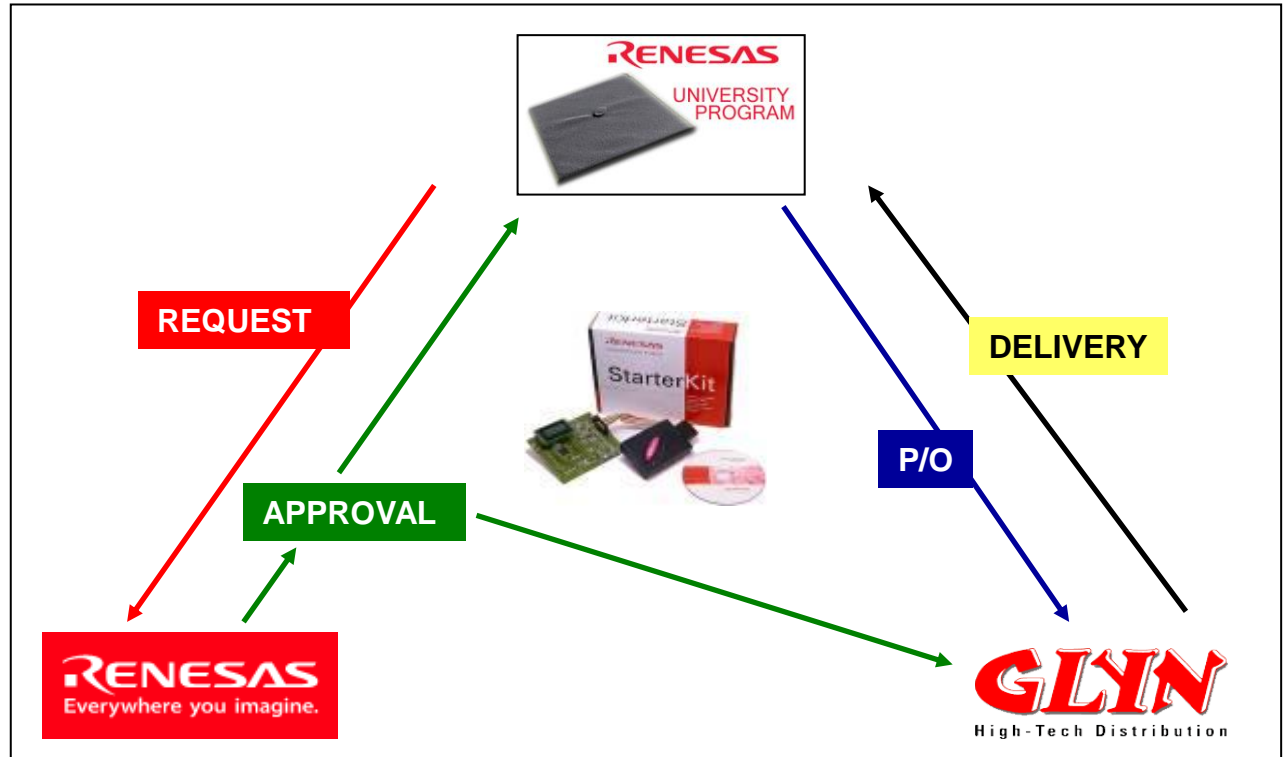University or their
key contact at Renesas

P/O

Optional Purchase Order

Logistic Service Provider

Contact Info
GLYN GmbH & Co. KG
Am Woertzgarten 8
D-65510 Idstein
Germany
Phone: +49-6126-590-222
Fax: +49-6126-590-111
sales@glyn.de

Logistics Business Model:

REQUEST

APPROVAL

DELIVERY

P/O

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Actual University support and outcome

Universities working with RTE are requested to provide yearly reports to review the outcome reached with the provided devices and their status .
Universities are continuously informing us about the ongoing projects. Those are recorded and implemented into the daily business and PR.

Students @ Work with Renesas RSK Kits

Supported Products   **University**

Product	Qty
HS0005KCU11H	1
R0K33062PS000BE	43
R0K3306NKS000BE	4
R0K330879S000BE-BW	2
R0K42215RS000BE	2
R0K521256S000BE	9
R0K571242S000BE	5
R0K572011S000BE	2
R0K572115S000BE	1
R0K572115S000BE	1
ROK33062PS000BE	1
RZB-CC16C-ZDK	6
S32HEWNC30-N5-6	4

Glamorgan
Leipzig
Prague
Warszawa
Tampere
Kiel
Vaasa
Clermont
Lulea
Muenchen

List of currently supported Universities and tools

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Latest sucess story with CLUB ELEK
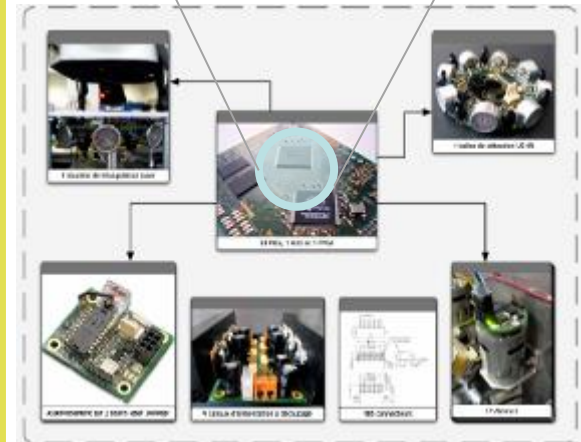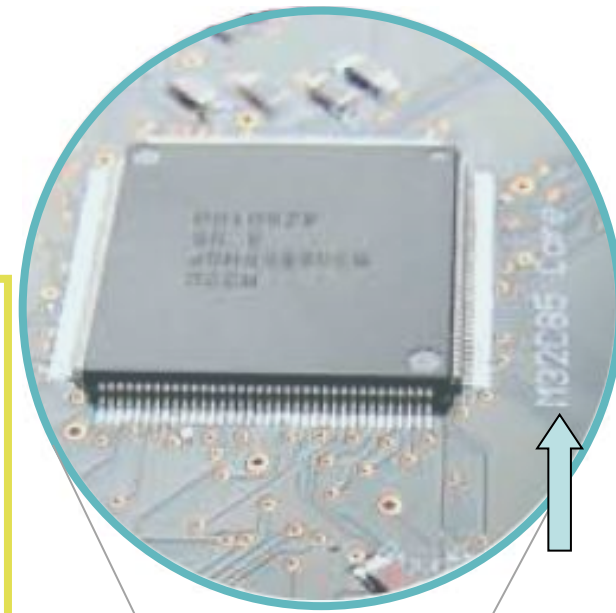
(Insa Lyon)

Eurobot Recycling Rally
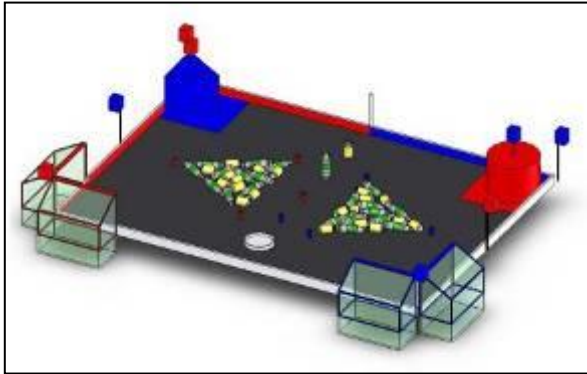
Waste, Sort & Win!
The robot which sorts the most waste into correct bins will be the winner.

INSA Lyon Robot run on the M32C/83 device took place at the Eurobot competition and won the 3rd place amongst the competition of 200 teams from 22 different countries.

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Actual University outcome in detail

Kiel University of applied Sciences / Germany

Research and development with support of Renesas Europe:

Final Project Thesis, in co-operation with ECAM, Brussels, Belgium:
Sensor Networks with starterkit RSK R8C-15

Master-Thesis Information Technology:
Development of sensored network module considering the
ZigBee-Standards with RSK M16C-29, ZMD 44102

Master-Thesis Information Technology:
TCP/IP über 802.15.4 IEEE stack compared to the existing ZigBee stack.
RSK M16C-29, MicroChip ENC 28J60 Ethernet solution

Kiel University of Applied Sciences
Faculty of Computer Science and Electrical Engineering
Center for Adaptronics

Ongoing research activities employing the Renesas Technology:

Development of Wireless Sensor Network nodes for environmental monitoring with M16C-29

Development of Wireless Sensor Network applications for habitat and health monitoring with ZigBee
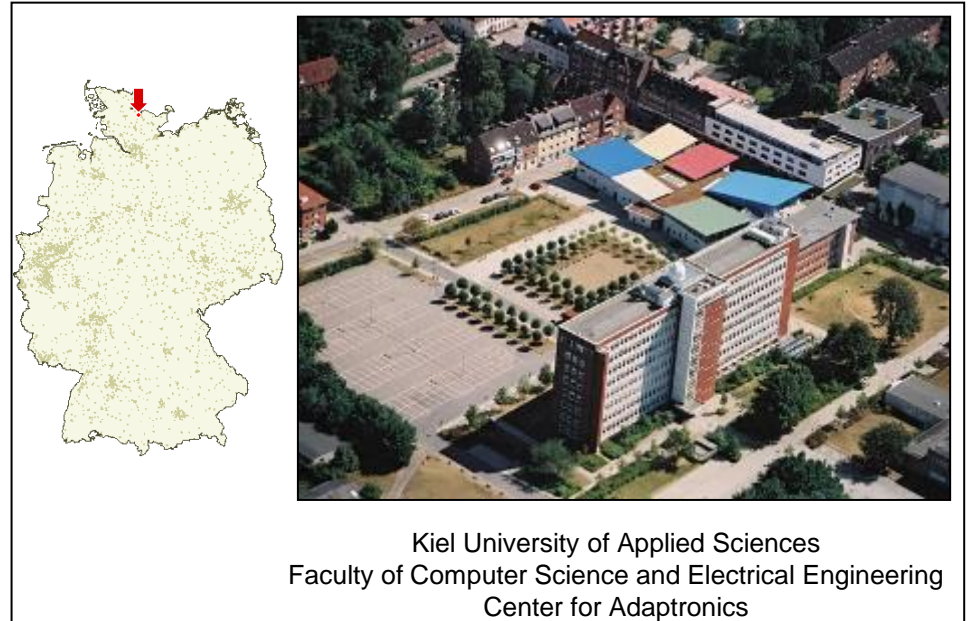
Feasibility study: recording handwritten information using accelerometers and ZigBee.

SniffBee - Realtime visualization of ZigBee sensor data: master student project related to "Ambient Intelligence".

Development of sample sensor nodes using ZigBee and I2C-bus RSK M16C-29 and ZigBee Starterkit

Development of a ZigBee-based energy-efficient data logger (with local, node-based intermediate data storage and processing) .

Co-operation with University of Aveiro, Portugal and the Federal University of Santa Catarina (UFSC), Florianópolis, Brasilien. Goal: development of new low power sensor network solutions based on ZigBee.

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Actual University outcome in detail

INSA Lyon / France **- ranked among the top universities of Science and Technology in Europe**

- INSA sees a great benefits to teach their students on the Renesas 16-bit & 32-bit architectures as they want to prepare efficiently their students to work for international companies (big & middle sizes): Sagem, Renault, Schneider, Peugeot, Alcatel, Alstom,… they have about 1000 industrial contacts.
- What can we get out of this short term?
  Short term: make press release on the robot based on Renesas MCU, promote our image within the school, increase the Renesas awareness within the INSA network of schools in France.
  Mid-term/Long term:
          a) Get >100 students per year trained on Renesas MCUs: R8C & SH, "Renesas minded" people.
          b) Increasing demand on our MCU as the cores are more & more known.
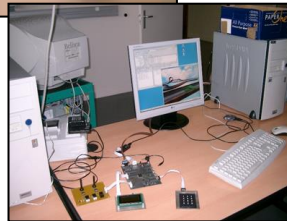- **Top result** – 3rd place on the european "EUROBOT" contest – see next slide for details

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Polytech Clermont-Ferrand / France

Motor Control developments: DTC (Direct Torque Control) &
FOC (Field Oriented Control) SW algorithms on SH Tiny
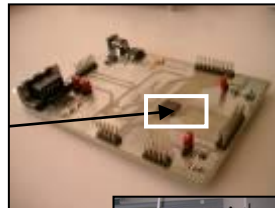
Practical Work (up to 200 hours per year)
… based on M32C + real-time kernel to drive a specific simulation
car game on PC

A student from Polytech is currently working at Fagor in Lyon on M16C and has experience on SH Tiny for asynchronous motor. It's great opportunity for us to strengthen our relationships with Fagor in Lyon.
Furthermore, Polytech is supporting a French customer called ETME for their development on SH Tiny for asynchronous motor
Thanks to our cooperation with Polytech, several customers are now evaluating our MCUs.

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… and outside Europe?

Here are some exciting examples….

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One of the Lab – Computer Engineering

Various Interesting Projects

Final Year Project

2nd Year Design Project

Detection of different **exhallations**
(H8S/2377 MCU)
(Final Year Student project)
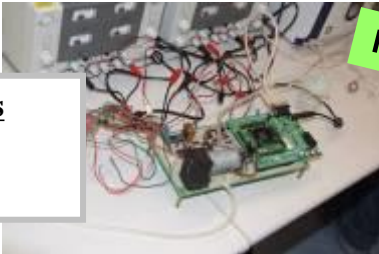
Testing of **hearing** capability
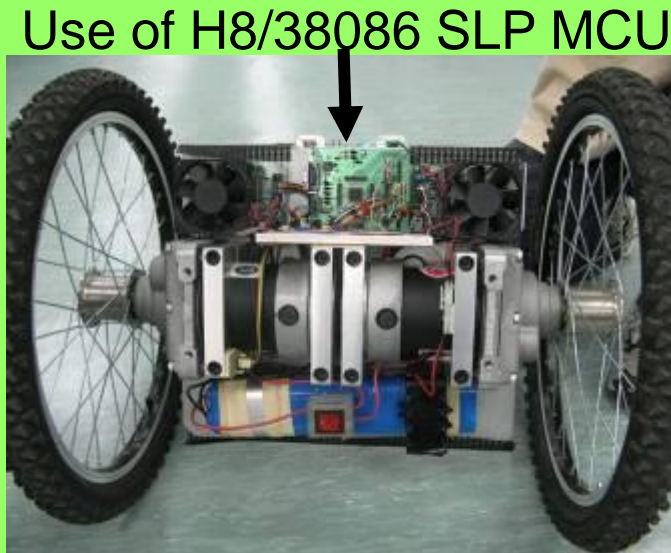(H8S/2377 MCU)
(Final Year Student project)

Final Year Student project
Sensor network using SLP

2nd Year Projects using SLP CPU Board –
Java Programming in PC, controlling
Obstacle-avoidance moving robot

Moving Robot picking up **color balls**
Using H8S/2377 MCU
(Final Year Student project)

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Use of H8/38086 SLP MCU

Amazing Projects

Undergraduate Final Year Project - 1 person Output

2nd Year Lab lesson
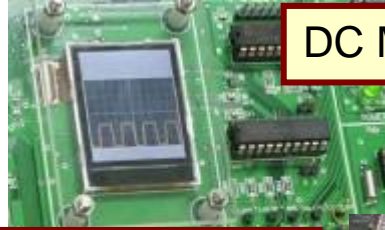**-Creation of general application on training board**

DC Motor – PID controller

Lift simulator

Tetris Game

Function Generator

Text Editor

Printer control

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Anna University
MCU Subject   : R8C
Students   : about 350 per year

Started in Year 2006

ANNA UNIVERSITY
PROGRESS THROUGH KNOWLEDGE

Renesas Lab

Local Partner :

FRONTLINE ELECTRONICS

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Engage into having Renesas Tool and Lab in 4 main university
1. Malang (BCS Computer)
2. Surabaya (STTS, Mr. Budhy)
3. Jakarta (Trisakti University)
4. Semarang (Diponegoro University)

Main Activity: Conducting Courses

Started in Year 2005

Local Partner :

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Renesas – With Confidence

Vaasa University of Applied Sciences / Finland

6th International Workshop on Ambient Intelligence and Embedded Systems

This is the sixth in the series workshop that has been held annually since 2001, and will bring together leading engineers, scientists and managers, around the world to benefit from the event and share their visions of the Embedded System future in the intteligent environment.

Renesas is proud to participate on the Workshop and to have the opportunity to share visions, see new perspectives and opportunities.
We see it as a chance to actively contribute and support the potentials in the area of the Embedded systems and Ambient intelligence.

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Future visions

- **Student's contest,**
- **Press events,**
- **Support of competitions,**
- **University Forum,**
- **European University pages**
- **… and many more – in 2007 and 2008!**

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Renesas Technology Europe