



**EVIDENCE<sup>®</sup>**  
EMBEDDING TECHNOLOGY

# Company description

2010

# The company



- Founded in 2002 as spin-off company of the Real-Time Systems Lab at **Scuola Superiore S.Anna**
  - 15+ years of experience in real-time and embedded systems
  - Collaborations with research centers in Europe and USA
  - Involved in several European projects
- **Mission:** design and development of **software for small electronic devices**
  - From your needs to your application!
  - Real-Time Operating Systems (RTOSs)
  - Open-source or commercial software

## Most innovative young Italian entrepreneur

March 12, 2007

Evidence founder **Paolo Gai** selected by “*Corriere della Sera*” as one of the most innovative Italian young entrepreneurs

**Sondaggio** Un panel di dieci esperti elegge per il Corriere Economia il Gotha degli under 50. Che saranno famosi

# Imprenditori emergenti: ecco i 30 più innovativi

Hanno una forte propensione internazionale. Sanno usare gli strumenti finanziari, dal private equity alla Borsa. Nuovi prodotti, nuovi processi, old economy reinventata

# (some) customers and partners

OSEK,  
microcontrollers,  
schedulability analysis



Linux,  
SW devel.

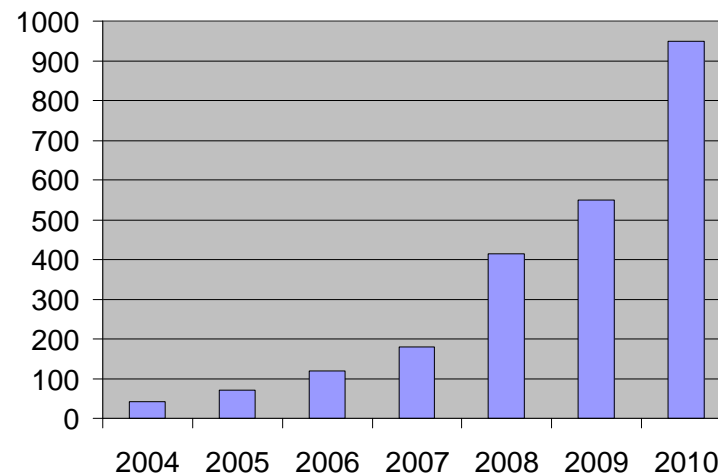


Partnerships



# Information about the company

- 8 Board members
- 17+ Full-Time employees
- 3+ Part-Time employees
- Current revenue (2009): 532000 Euro
- Planned revenue (2010): 950000 Euro



# Products and services

# Embedding your needs...



From hardware...

1. Hardware design (through our partners)
2. Operating system selection and porting
3. Application Development

...to your embedded application!





# Services

## Consulting

- Real-time and time sensitive applications
- Embedded systems
- Planning the right move to Linux

## Development

- Design of electronic devices
- Development of firmware
- Design and development of complex software
- Software for your specific hardware (e.g., Linux drivers)
- Custom Embedded Linux distributions

# Products

## Real-Time Operating Systems:

- ERIKA Enterprise  – Tiny RTOS
- Embedded Linux  – High performance OS

## Development tools:

- RT-Druid  – For ERIKA Enterprise
- Evelin SDK  – For Embedded Linux

## Hardware:

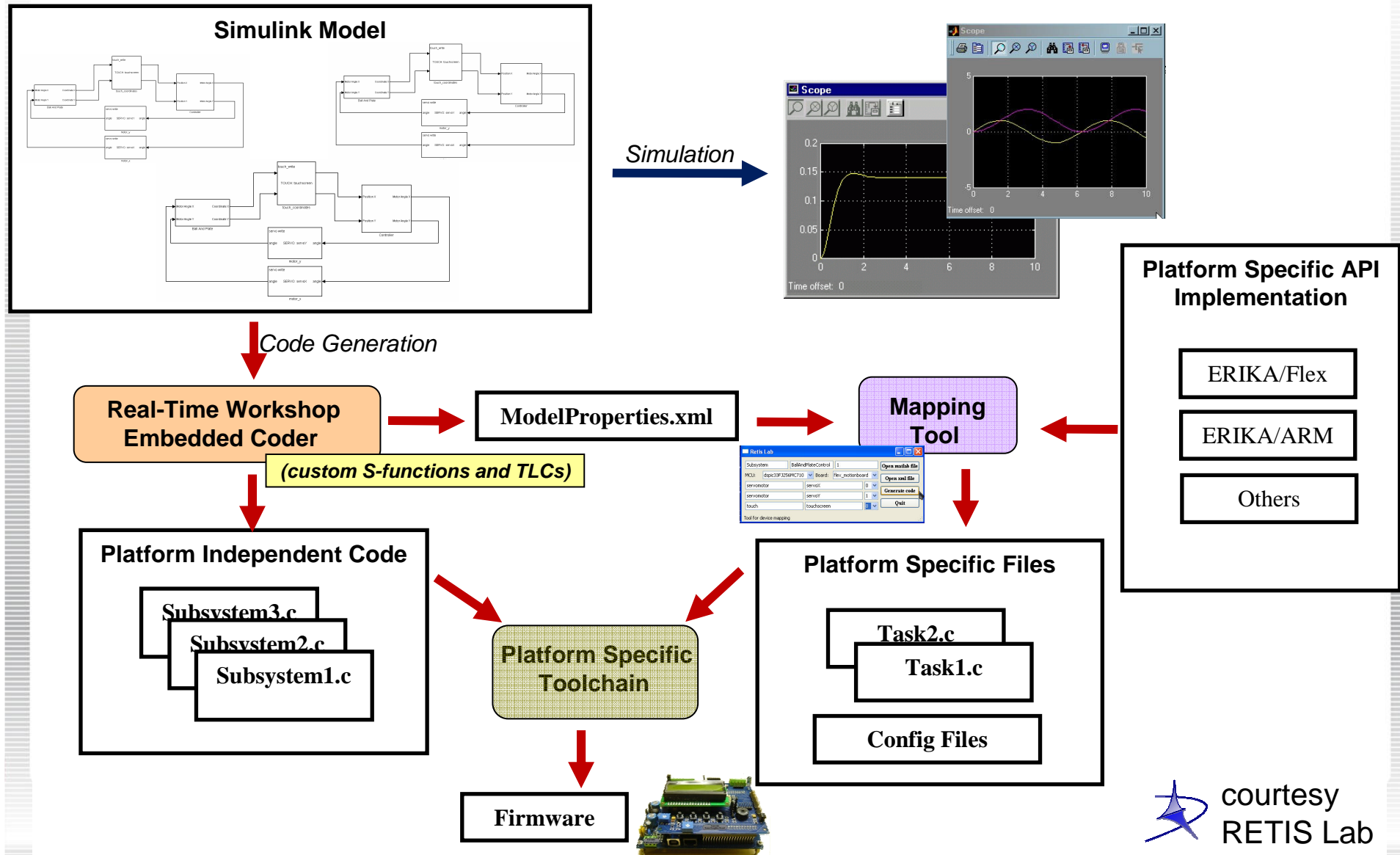
- Flex  – Eval boards
- GEA  – Linux Embedded boards

# ERIKA Enterprise RTOS



- Real-Time Operating System (RTOS)
- **Performance** and high efficiency:
  - Advanced real-time scheduling algorithms
  - RAM: Stack sharing to limit RAM consumption
  - Flash: very low footprint (1-4 KB)
- Portable API based on **automotive standard** (OSEK/VDX)
- Supports a wide range of microcontrollers
  - Support for multicore systems
- See <http://erika.tuxfamily.org>

# Fast prototyping using Matlab/Simulink

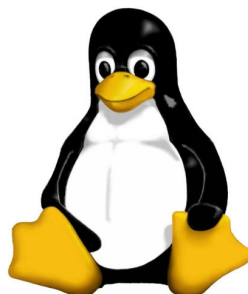


# Embedded Linux

- **Linux is a better choice** than proprietary solutions:
  - Simple and elegant design
  - Stable, robust, secure
  - **Excellent performance**
  - **No royalties**
  - Free source code and development tools
- **We embed the power of Linux** to satisfy your needs
  - Configuration, customization and tuning of each single part
  - Development of custom **drivers** for your hardware
  - Development of applications with graphical interface
  - Technical support and guarantee

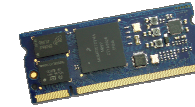
# Among best companies for Linux

- Evidence engineers have a deep knowledge of **kernel internals** and collaborate daily with the most important kernel developers
- Since December 2008 Evidence is in the **official list** of companies that contributed to the Linux kernel:
  - [http://remword.com/kps\\_result/](http://remword.com/kps_result/)
  - Evidence contributed to the development from release 2.6.28



# GEAM6425

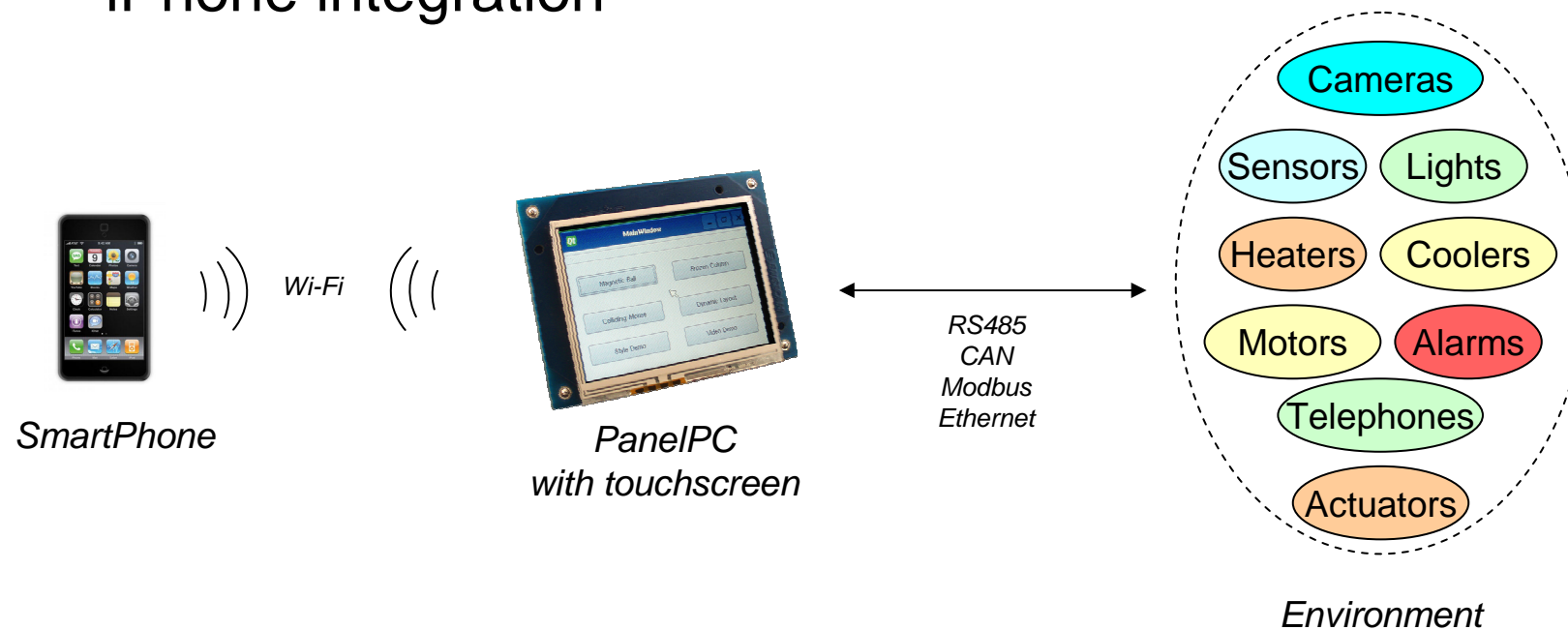
- **Architecture:** Freescale iMX25 (ARM9) 400 MHz
- **Display:** QVGA + touchscreen
- **Memory:**
  - 64 MB DDR2 RAM
  - 256 MB NAND Flash
  - 1x SD Card
- **Communications:**
  - 1x USB OTG
  - 1x USB HOST
  - 1x Ethernet 10/100
  - 5x UARTs (RS232 and RS485)
  - 1x I2C Bus
  - 2x CAN Bus
  - 3x CSPI
  - 1x I2S



Powered by  
Linux and  
QT graphics!

# Monitoring and control

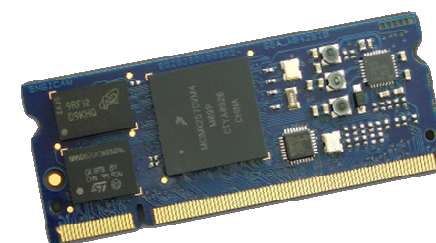
- Intelligent environments
- Real-time monitoring and control
- iPhone integration





# GEA M6425: Main markets

- **Multimedia:**
  - Audio/Video players, wiki/e-book readers
- **Domotics:**
  - Panel PC for controlling house equipments
- **Telecommunications:**
  - Navigation systems, VoIP servers, gateways
- **Human-Machine Interfaces (HMIs):**
  - Control of heaters, coolers, washers and other machines
  - Prototyping of graphical interfaces
- **Automotive:**
  - Alarm systems, automotive units and displays
- **Sensor networks:**
  - Videosurveillance (webcams or IP-cams)
- **Control systems:**
  - Industrial controls, robots, biomedical devices, RFID readers (thanks to Ethernet+CAN+RS485)
- **Education:**
  - Development of embedded applications on Linux



# Research Projects

# EU Projects (FP7)

- **FP7 ARTIST Design**
  - Network of Excellence for spreading out the knowledge on real-time systems
- **FP7 ACTORS (36m, end jan 2011)**
  - Adaptivity and Control of Resources in Embedded Systems
  - Resource reservation with Linux on Multicore ARM11
  - Partners: Ericsson Res. Labs, Scuola S. Anna, TU Kaiserslautern, Ec. Polytechnique Féd. de Lausanne, Lund University, AKAtch SA
- **FP7 INTERESTED (36m, end dec 2011)**
  - INTER-operable Embedded Systems Toolchain for Enhanced rapid Design, prototyping and code generation
  - Partners: ESTEREL, AbsInt, TTTech, Symtavision, UNIS, Artisan Software, Sysgo, Airbus, Magneti Marelli, CEA, Thales, Siemens
- **FP7 ERA (36m, end dec 2012)**
  - Embedded reconfigurable Architecture
  - Reconfiguration framework based on embedded Linux / Microblaze on Xilinx FPGAs
  - Partners: TU Delft, Univ Siena, ISI (Gr), Univ edinburgh, Univ. Chalmers, ST microelectronics, IBM Israel, univ Rio Grande del Sur



# Regional projects

- **IPERMOB (18m, end april 2011)**

- Infrastruttura Pervasiva Eterogenea Real-time per il controllo della Mobilità
- Evidence provides embedded sensors based on PIC32 and FPGAs
- Partners: Scuola S. Anna, Intecs, Aleph, SAT, CNR



- **ASCOLTA (24m, end may 2011)**

- Assistenza domiciliare allo SCOMPENSO cardiaco attraverso Le Tecniche Avanzate di comunicazione digitale
- Evidence provides embedded software on wireless devices for ECG/pressure sensing
- Partners: CAEN, EMAC Srl, DEVELER, SINRGEST, ARCHA, Scuola S. Anna, Dip. Cardioracico Univ Pisa



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