Reporting March-Oct 2017
Bucarest Meeting

Etienne SICARD
Professor
30 Oct. 2017

INSA Toulouse P2

MECA

MicroElectronics Cloud Alliance

www.meca-project.eu/

1. Who was involved

INSA days 2017	Manager	Researcher	Technicien	Admin	Total - As financed
Etienne SICARD	5	48			53
Sonia BEN DHIA		10			10
Alexandre BOYER		28			28
Virginie MIQUEL				10	10
Thierry GAFFIER				19	19
Alain BERARD			10		10
David BARITAUD			10		10
Frédéric SOULIER			25		25
Total	**5**	**86**	**45**	**29**	**165**

Alexandre BOYER
Senior Lecturer

Etienne SICARD
Professor/Manager

Sonia BEN DHIA
Professor

Thierry GAFFIER
Secretary

Frédéric SOULIER
Computer Eng.

Virginie MIQUEL
Finances

Alain BERARD
E-Learning Eng.

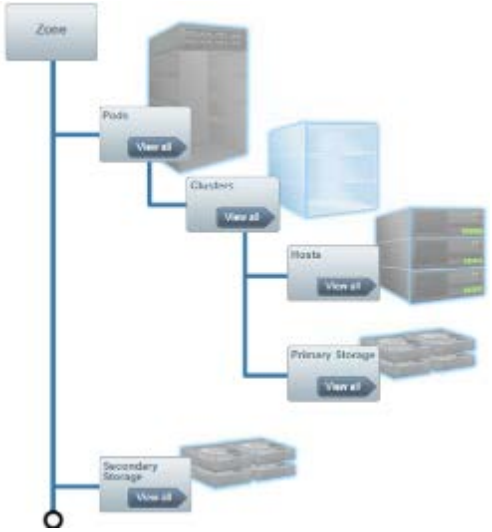
2. .. To do what?

Work Package	Days	Description
WP1	25	Project management
WP2	22	Need analysis
WP3	24	Specification of the Cloud system
WP4	0	Development of job-specific training modules
WP5	131	Development of the mClouds system
WP6	54	Pilot test
WP7	0	Quality assurance
WP8	31	Evaluation
WP9	26	Dissemination
WP10	141	Exploitation

3. What was done (1/4)

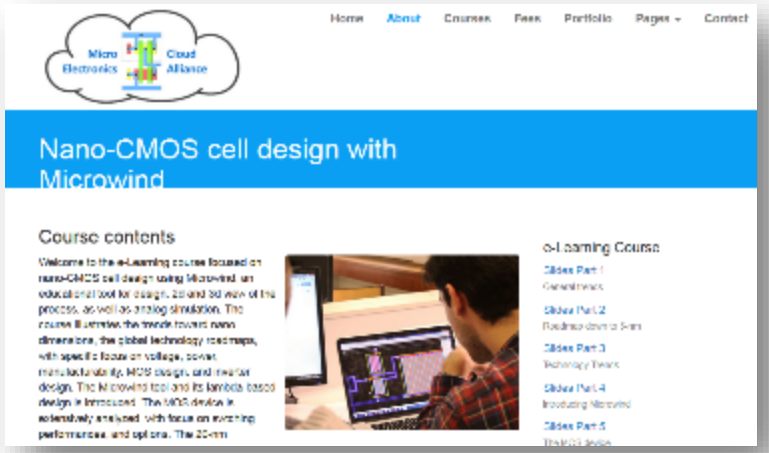
- **WP3: Development of the mCloud system**
  - Dell M520 server installed;
  - FortiGate 1200D installed;
  - NFS Storage 500 Gb installed.
  - Cloud requirements completed
  - Training of INSA Computer services and GEI colleagues to CloudStack
  - Contact with partners Torino, e-Works, UNED to get CloudStack experience & best practice
  - Contact: Frederic SOULIER

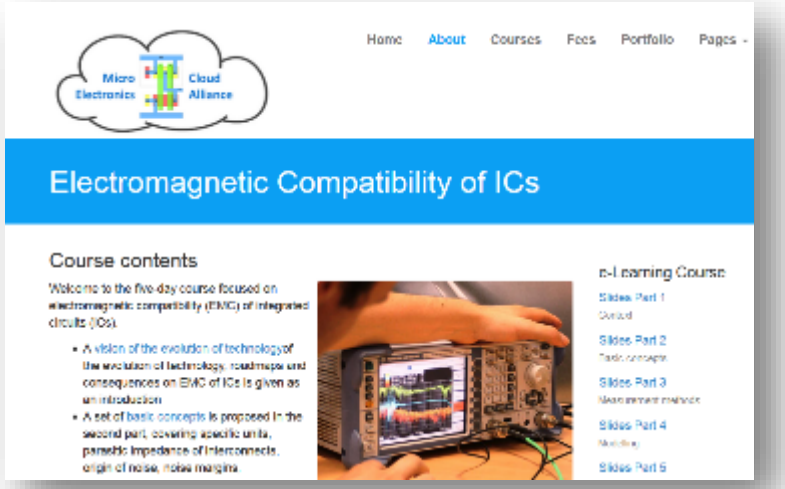
Apache CloudStack™



3. What was done (2/4)

- **WP5 : Development of the mCloud system**
  - Reuse MECA web page template
  - Build nano-CMOS course for mCloud
  - Build EMC of Ics course for mCloud
  - Update IC-EMC for mCloud
  - Contact: Etienne SICARD

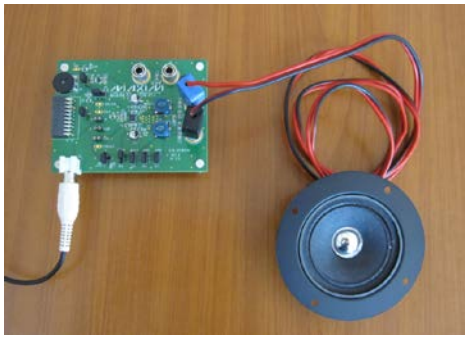


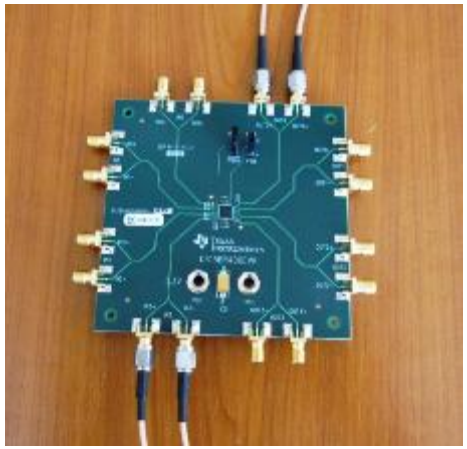


3. What was done (3/4)

WP5 : Development of the mCloud system

- Class D Speaker Amplifier
- Educational goals:
  - Illustrate conducted/radiated emission issues
  - Perform typical EMC measurements
  - Design a LC filter to eliminate HF noise
  - Illustrate spread spectrum modulation to reduce EMI
  - Optimize EMI reduction
- Contact: Alexandre BOYER



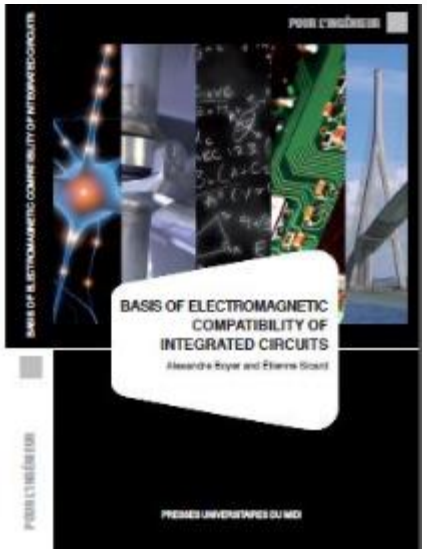


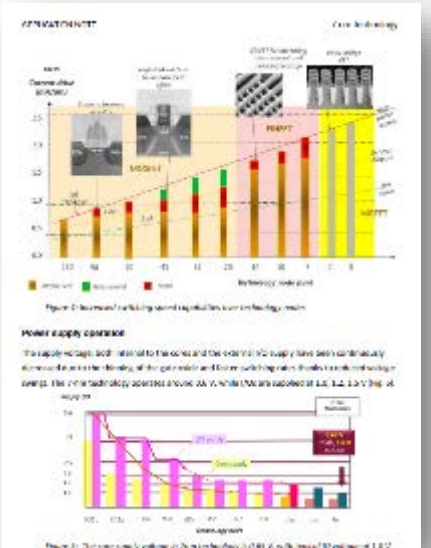
- Quad LVDS Buffer/Repeater with Preemphasis
- Educational goals:
  - Illustrate high speed signal issues, role of matching, line loading
  - IBIS modeling
  - Signal Integrity simulation of high speed differential signal
  - Illustrate pre-emphasis and equalization effect on SI

3. What was done (4/4)

- **WP6: Pilot test**
  - Pilot test course EMC of ICs with 11 industrial & academic attendees
  - Test of new modules, new exercises, updated software

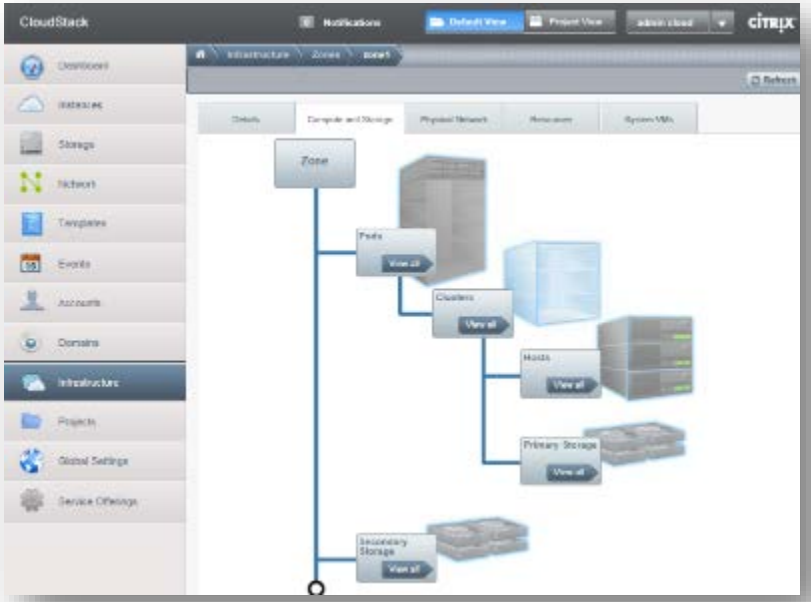
- **WP9: Dissemination**
  - Courses promoted at EMC Europe 17 Angers, EMC compo 17 St Petersburg
  - Release of book “Basis of EMC of Integrated Circuits”
  - Release of nano-CMOS application note
    - 14-nm FinFET
    - 10-nm FinFET
    - 7-nm FinFET
    - PDF available through Open Archive HAL CNRS





4. Forecast/plans for end of 2017 and 2018 (1/2)

- **WP5: Development of the mCloud system**
  - **Install CloudStack,**
    - Access security to INSA Cloudstack
    - Firewall rules
    - Users rules
  - **INSA Cloudstack configuration**
    - Tune local Cloudstack configuration to mCloud requirements
    - Virtual Machines (VMs) creation
    - VMs Internet Access
  - **Deploy CloudStack**
    - Make EMC & nanoCMOS course available
    - Allow students to access Cloud system



4. Forecast/plans for end of 2017 and 2018 (2/2)

WP5 : Development of the mCloud system

- Design & Record educational videos related to
  - Course EMC of Ics
  - Course nano-CMOS
- Contact: Alain BERARD

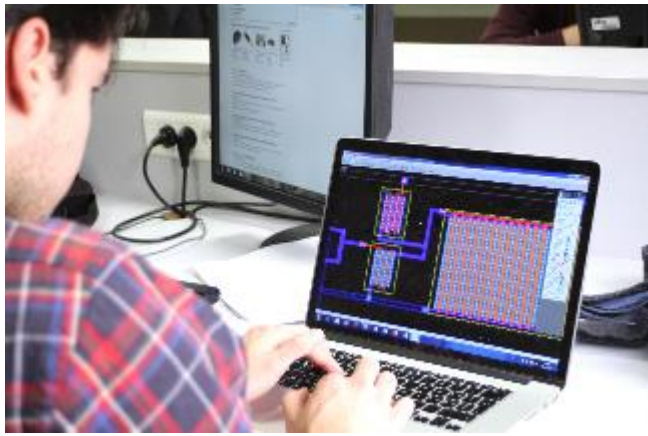
WP6: Pilot test

- **Course nano-CMOS (Dec 17)**

WP8: Evaluation of courses

WP10: Exploitation

- **Course EMC of ICs (Sept 18) – Free for MECA**



Thank you for your attention

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