

Quantum and spin-based nanoelectronics

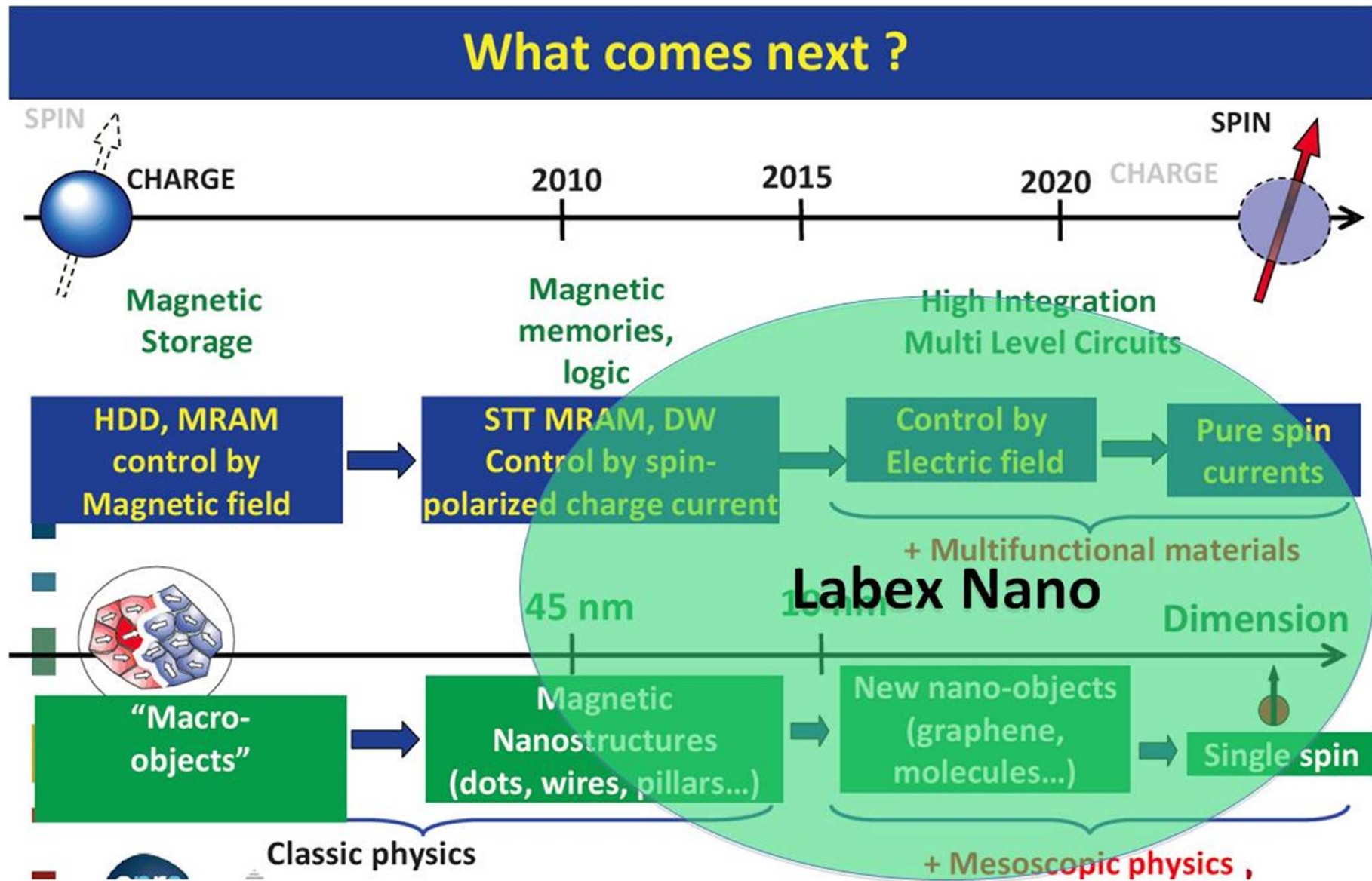
F. Nguyen Van Dau

Partenaires

- » Institut d'Electronique Fondamentale
- » Laboratoire de Photonique et Nanostructures
- » CEA-IRAMIS@NanoINNOV
- » CEA-IRAMIS@Saclay
- » Laboratoire d'Intégration des Systèmes et des Technologies
- » Institut de Chimie Moléculaire et des Matériaux d'Orsay
- » Unité Mixte de Physique CNRS Thales
- » Laboratoire de Physique de la Matière Condensée
- » Laboratoire des Solides Irradiés
- » Laboratoire de Physique des Solides
- » Ecole Centrale Paris
- » INRIA Saclay Research Center
- » Thales Research & Technology



Positionnement



4 strategic approaches

- » **4 strategic approaches selected based on their potential to address at least one of the following key objectives**
 - Drastically reduce power consumption
 - Demonstrate new device concept and/or computation architecture

- » **A new paradigm in nanodesign : memristors**
- » **Towards ultra low power spintronic nanodevices**
- » **Molecular spintronics**
- » **Charge based nanoelectronics**

Management du flagship

- » **Bureau : J. Grollier, D. Ravelosona, T. Mallah, D. Mailly, F. Nguyen Van Dau**

- » **A new paradigm in nanodesign : memristors**
 - Leader : J. Grollier
 - Bureau : O. Temam, J-O. Klein, V. Derycke

- » **Towards ultra low power spintronic nanodevices**
 - Leader : D. Ravelosona
 - Bureau : A. Barthélémy, M. Viret, A. Thiaville

- » **Molecular spintronics**
 - Leader : T. Mallah
 - Bureau : P. Sénéor, F. Silly, U. Gennser

- » **Charge based nanoelectronics**
 - Leader : D. Mailly
 - Bureau : L. Reining, P. Dollfus, C. Cojocaru

Budget du flagship

Flagship ProjectA: Nanoelectronics

	Y1	Y2	Y3	Y4	
Sub-project 1			60	60	subcontracting to CMOS foundry
Sub-project 2			60	60	2 years of post doctoral grant, Phys./Chem. interface
Sub-project 3	60	60			2 years of post doctoral grant, Phys./Chem. interface
Sub-project 4		70	30		Equipment: extending a deposition cluster
Animation	5	5	5	5	Domain seminar organization
Workshop	50			80	Workshops organized for each sub-project
Chercheurs invités		60	50		3 invited researchers (3 to 6 months stays)
Missions	10	10	10	10	travel: international dissemination on project advancement
Total/year	125	205	215	215	

The global budget reduction of the labex has only been applied to year 1