



Amiqua 4 Home

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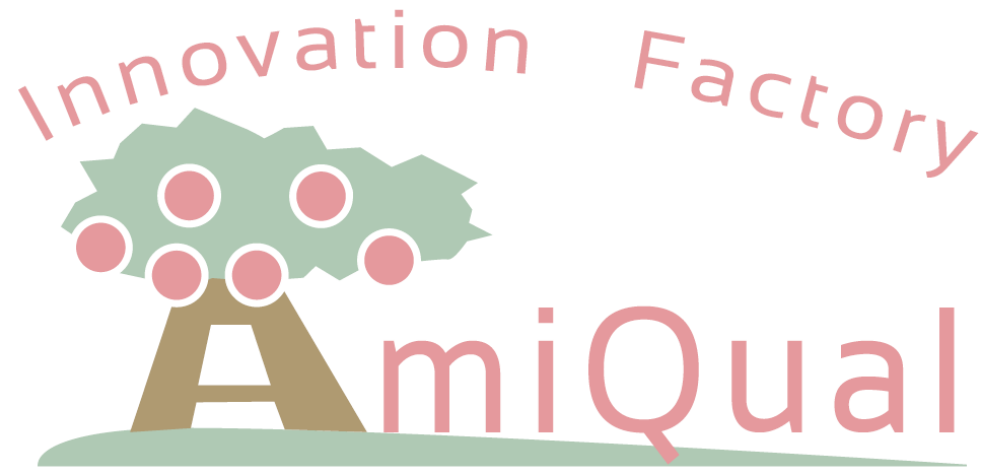
Contexte : Investissements d'avenir

- Investissements d'avenir 2010
 - 14 programmes (21.9 Md €)
 - Pôles d'Excellences (15,3 Md Euros) : Accélérer la dynamique de transformation du système d'enseignement supérieur et de recherche
 - Projets Thématiques d'Excellence : (6.55 Md Euros) Investir dans des équipements de recherche des meilleurs laboratoires.
- Appel Equipement d'Excellence (EquipEX)

Contexte : AmiQual 1 (Ambient Intelligence for Quality of Life)

- 4 « chantiers » :
 - Santé
 - Bâtiment
 - Transport
 - Commerce
- 4 Axes :
 - Energie et confort
 - Famille et vieillissement
 - Connaissance et formation
 - Commerce et coût de la vie
- Partenaires :
 - Recherche Public : INRIA, CEA, CNRS, CSTB, Universités
 - Pôles de Compétitivités et Collectivités Territoriales
 - Grands Groupes et PME

AmiQual 2 : AmiQual for Home



**Institut National de Recherche en Informatique et en
Automatique**

Institut Polytechnique de Grenoble

Université Joseph Fourier

Université Pierre-Mendès France

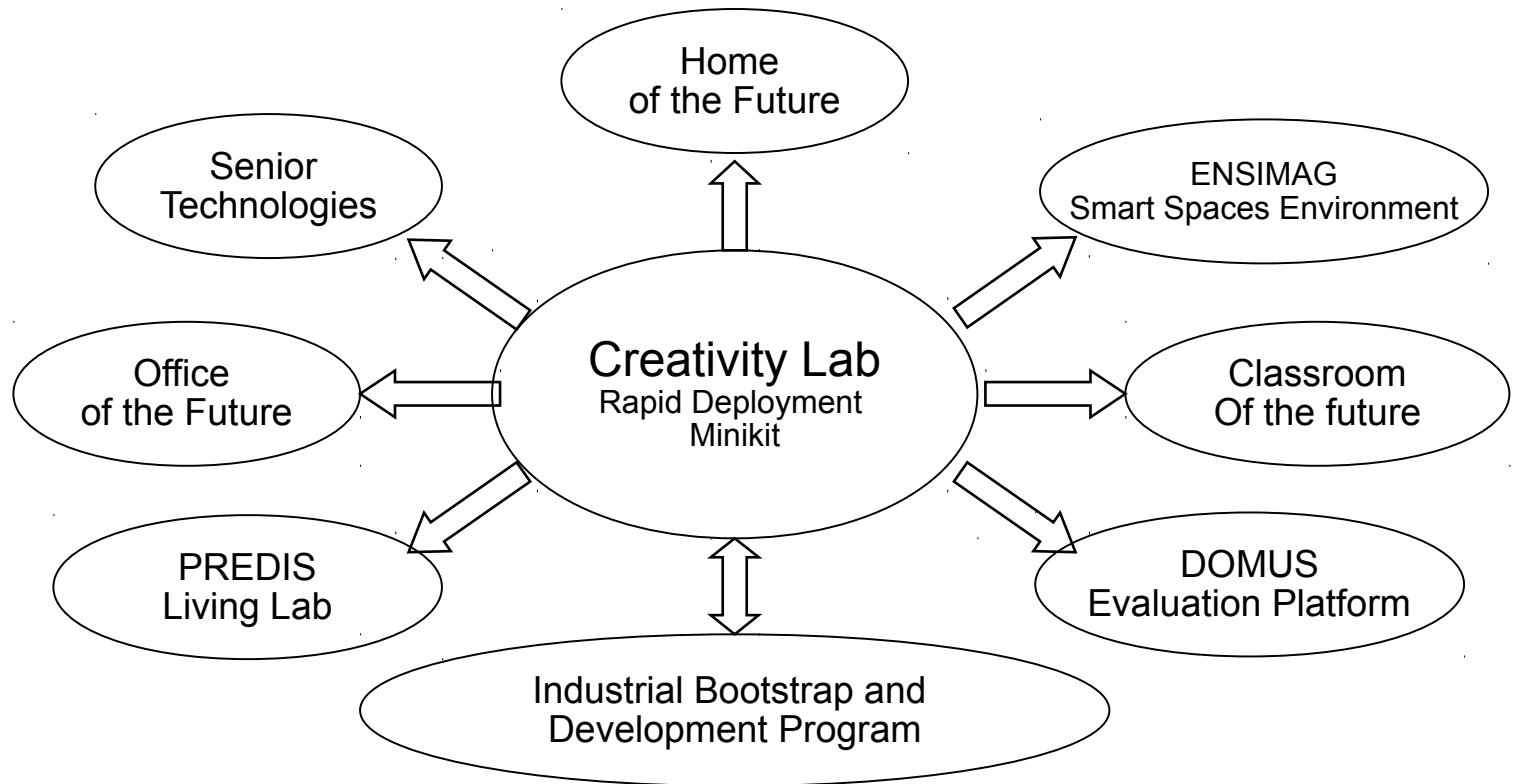
Centre National de Recherche Scientifique

Schneider Electric

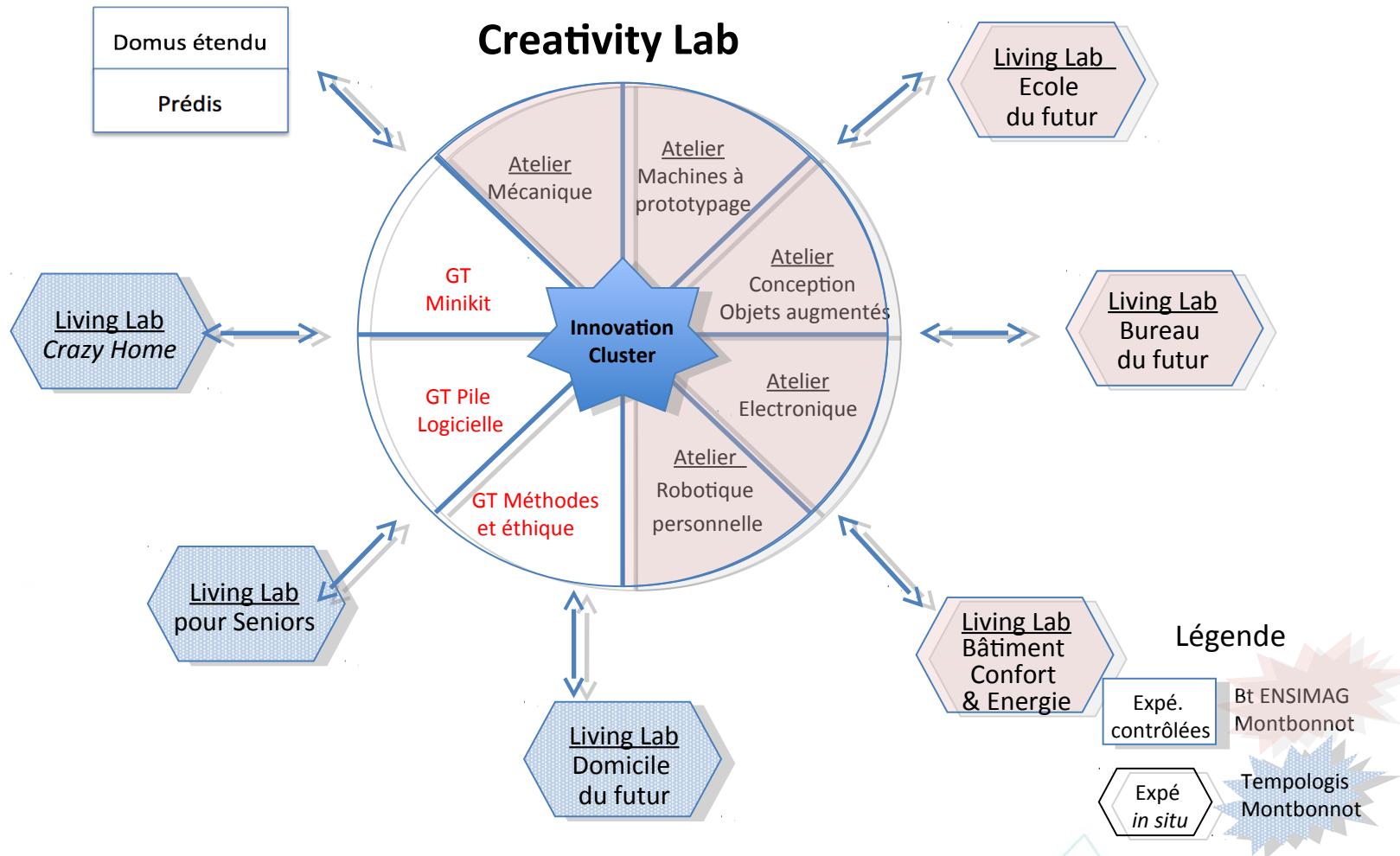
AmiQual Usine d'Innovation Technologique

- Composants :
 - Creativity Lab
 - Rapid Deployment Minikit
 - Smart Space Living
 - Rapid Deployment Minikit
 - Senior Technologies Living Lab
 - Classroom of the Future (Learning Lab)
 - Office of the Future
- Programme de développement et industrialisation.

Vision générale



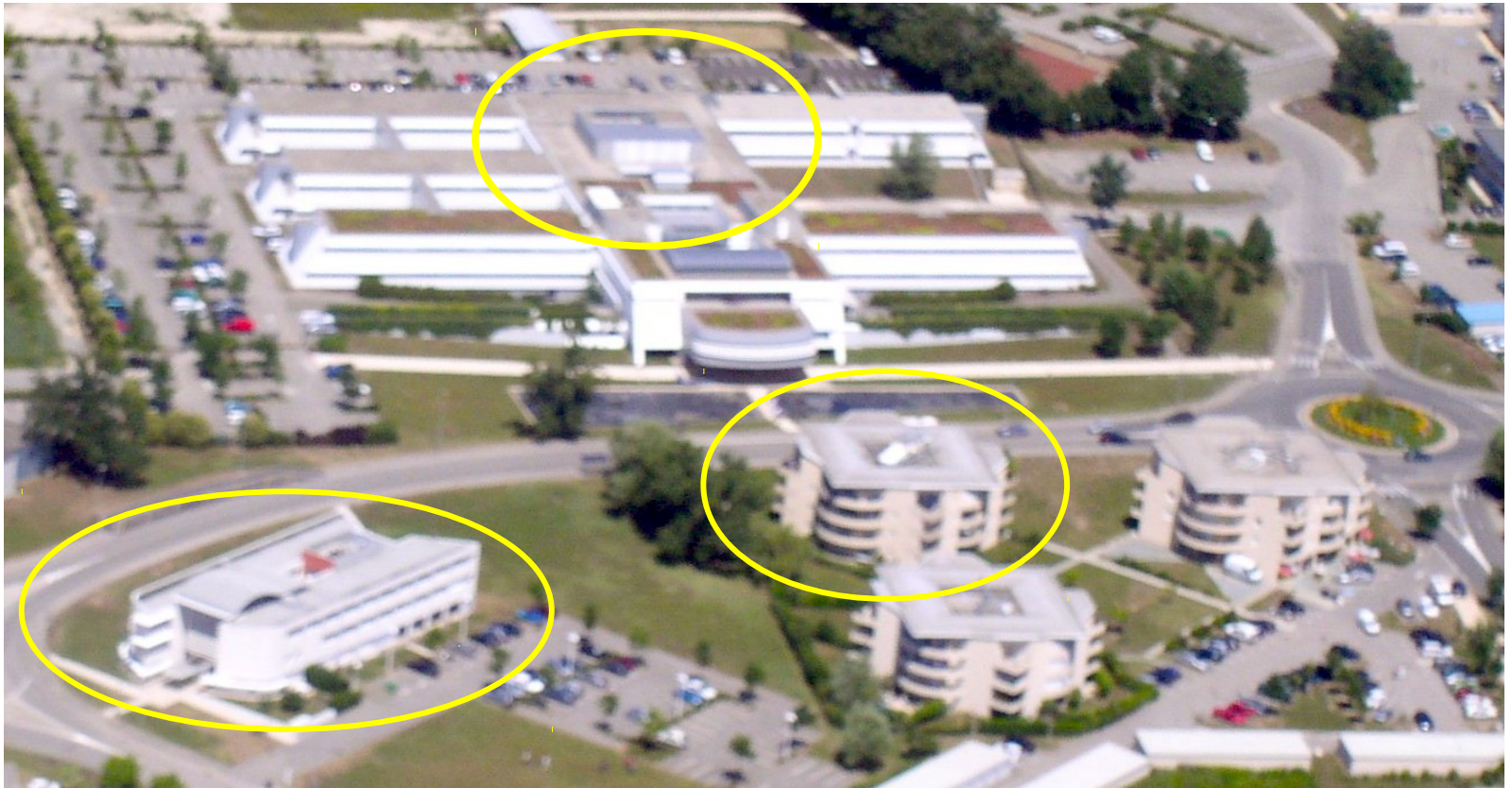
AmiQual (juin 2012)



Emplacement des plateformes

- Ensimag Montbonnot / INRIA: Technology Innovation Center
 - Creativity Lab (Workshops for inventing devices and services)
 - Smart Spaces Living Lab
 - Personal Robotics Lab
 - Classroom Room of the Future
 - Office of the Future
 - Rapid Deployment MiniKit
- TempoLogis Building : Three apartments equipped as Living Labs
 - Home of the Future (Researchers live and evaluate technologies)
 - Rapid deployment test site (testing home grown technologies)
 - Senior Technologies Living Lab (Club of Senior Technolophiles)
- Domus (CTL) : Satellite facility for evaluating devices and services
- Predis (G2ELab) : Energy Management Living Lab
- PILSI Research Building (after 2015) : Extension of Creativity Lab

Innovation Factory



Bâtiment ENSIMAG, INRIA, TempoLogis - Montbonnot

Predis G2E lab



16 octobre 2012

10

Domus



Creativity Lab

- **Mission:** A cluster of "open" workshops for:
 - Rapid prototyping and test of devices combining embedded electronics, sensor, actuators and interfaces.
 - Training in tools and methods for designing and constructing embedded systems.
 - Support for creating successive generations of the Rapid Deployment Minikit.
 - Product Prototype Bootstrapping support
- **Creativity Lab Workshops**
 - 3D Design and Printing workshop (3D Printers, design tools)
 - Electronics workshop (fabrication and debugging of circuits and systems)
 - Mechanical components workshop (NC Milling machines, Drill press, saw etc)
 - Personal Robotics Workshop

Personal Robotics Workshop

- **Mission:** Develop robotic devices for ambient intelligent environments.
 - Rapid prototyping and test of robotic devices for personal services.
 - Training in tools and methods for building personal services based on robots in ambient intelligent environments.
 - Support to add mobility and manipulation to ambient intelligent environments.
- **Components**
 - Examples of commercially available personal robots
 - Large numbers of selected devices for distributed robotics.
 - Workshop for adding sensors, actuators, and interaction interfaces to robots
 - Robotic Test arena.

Rapid Deployment Minikit

- Mission:
 - Allow rapid deployment of sensors, actuators, communications, interaction devices for rapid experiments
 - 4 generations per year (each based on experiences with last)
 - Constructed with Creativity Lab
- Components
 - Suitcase sized transportation
 - Wireless network components, internet access
 - Sensors for acoustic, visual, thermal energy, vibration, etc
 - Tactilization tools (augment surfaces with tactile sensing)
 - Actuators (pico-projectors, haptic sensors, motorised actuators, etc)
 - Base Station: Tablet or laptop
 - Middleware, http based configuration and communication tools

Personal Habitats Living Lab

- **Site:** 3 TempoLogis apartments
- **Partners:** LIG, Senior Techno-Phil club, Orange Labs?, Schneider Electric? Trialog?, EDF?, Immotronics? Miriad Group? Pace?
- **Mission(s) :**
 - Apt 1: Home of the Future: Test bed for state-of-the-art commercial systems for intelligent buildings and habitats (energy, comfort, entertainment, services, etc.)
 - Apt2: Creativity test-bed: Experiments with home grown devices and services with live-in experiments for technology innovators
 - Apt 3 : Senior technologies living lab: Showcase and experiments with for technologies adapted for seniors and designed to aid seniors (animated by Senior Technophiles club).

Smart Spaces Living Lab

- **Site** : ENSIMAG building (?) : Ground floor, public spaces, selected offices
- **Partner** : Schneider Electric (Part of Homes Network of Smart Building Platforms)

- **Mission:**
 - Detailed record of energy consumption and environmental conditions. (24/24)
 - Developed detailed model of flow of energy, air, and acoustic conditions.
 - Experiment with completely integrated comfort management
 - Experiment with total information transparency on energy use for inhabitants
 - Experiment with human computer interaction between people and buildings.
- **Components** :
 - Extensive instrumentation of environmental conditions.
 - Open Building Management System
 - Widespread use of display of conditions and energy consumption.
 - Activity monitoring and modeling.
 - Control Room for data collection and analysis

Learning Lab

- **Partner** : Metah (LIG), Innovacs, IN&CO, Cabrilog,
- **Mission** :
 - Prototype and test-bed for future technologies for classrooms and lecture halls.
 - Instant access and interaction with information
 - Enable recording of lectures for streaming and on-line access
 - Enable experiments in new forms of teaching
- **Components** :
 - Extensive video-conferencing and recording facilities.
 - Context aware multi-camera recording system
 - Wide-spread use of interactive surfaces