Institut Mines-Télécom: Leader of the MACMIA project to diversify and increase AI training

- **The project relies on a network of academic and economic partners (12) from eight French regions.**

- **MACMIA offers AI programs to train AI business specialists and professionals with dual expertise in AI and industry of the future. MACMIA organizes awareness programs starting in high school, initial training ranging from two-year to eight-year degrees, and lifelong learning programs.**

- **MACMIA trains business experts, project managers, AI specialists and specialists with dual skills: AI and industry of the future or other fields.**

Institut Mines-Télécom (IMT) announces the launch of the MACMIA project, winner of the "Skills and Professions of the Future" call for projects. With funding of €5.9 million, MACMIA aims to diversify and increase the range of training programs in Artificial Intelligence (AI) and Data Science. This large-scale project is supported by Institut Mines-Télécom schools: IMT Mines Alès, IMT Atlantique, IMT Nord Europe, Mines Saint-Étienne, and Institut Mines-Télécom Business School in association with: ESIGELEC, the University of Technology of Troyes (UTT) and several Campuses of Professions and Qualifications of Excellence (CMQE).

Unique and strategic positioning

The MACMIA project aims to implement comprehensive training for technicians, engineers and managers with dual skills in AI and industry of the future. Its innovative and transdisciplinary approach is what sets it apart. It covers several areas of dual-skill training, including embedded AI and intelligent mobility, AI and healthcare, and AI and distribution. It also ensures that humans remain at the heart of digital transformation and automation by training cognitive engineers.

A national network and public-private partnerships

MACMIA relies on a vast national network covering eight French regions: Occitanie, Auvergne-Rhone-Alpes, Brittany, Pays de la Loire, Normandy, Ile-de-France, Hauts-de-France and Grand Est. The project mobilizes local academic and economic actors to facilitate its deployment and maximize its national impact. It is supported by several partners, including competitiveness clusters (Cap Digital, CIMES, Cité de l'IA / MEDEF), skills operators (OPCO Atlas), large companies (Festo, Valeo, Assystem, Cisco, Capgemini, Carrefour), and innovative SMEs (ESII, CILcare).

Raising awareness and innovative teaching methods

MACMIA promotes AI and Data Science professions by organizing awareness initiatives in secondary schools. These initiatives include programs to encourage diversity, such as Institut Mines-Télécom's Women Ambassadors program and the Girls in AI program run by Campuses of Professions and Qualifications of Excellence (CMQE) in cooperation with associations. The project also introduces innovative teaching methods such as serious games for youth orientation, the integration of AI language models in the courses, and active learning methods through projects conducted in partnership with companies.

Continuing education from three-year to eight-year degrees

MACMIA provides a continuum of training, from raising awareness among high school students to higher education programs ranging from two years to eight years. The programs cover a broad spectrum, including Bachelor's, Master's, and PhD programs specializing in AI and Data Science. These programs are designed to meet the emerging needs of the technological and industrial sectors, with a focus on dual skills for engineers and managers.

Lifelong learning

A continuing professional training program has been created to allow working professionals to acquire or strengthen their AI skills. This includes short and long-term programs, certifications and degrees tailored to companies' needs. Continuing education is also available online via an integrated LMS, which offers learners flexible and accessible solutions throughout their careers.

Targeted professions and skills

The MACMIA project targets business experts, project managers, AI specialists (machine learning, computer vision, generative AI, large language models – LLM) and dual-skill specialists. The scheduled programs include:

- **Senior executives and business experts**: Training in basic AI knowledge, awareness and foundations of AI, responsible AI issues (ethics, bias reduction, algorithmic transparency, confidentiality and data security), and R&D processes in the AI age.
- **AI Project Managers**: Train business facilitators capable of managing multidisciplinary teams, lead and explain complex projects, with skills in AI project management, knowledge management, strategic intelligence, communication, and legal issues.
- **AI specialists**: Computer and network engineers, machine learning engineers, cognitive engineers, vision engineers, and computer security engineers. Skills include data collection and processing, deep learning, embedded AI, information systems security, and human-machine interaction.
- **Dual skills specialists**: Predictive maintenance technicians, embedded systems and connected objects engineers, autonomous robotics engineers, cyber-physical systems engineers, and medical systems engineers. Skills include predictive maintenance, embedded software design, autonomous system navigation, digital transformation of manufacturing industries, and the use of AI in medical systems.
- **Retail professionals**: Integration of generative AI and LLM into their practices, advanced data analytics, and inventory optimization with a strong focus on ethics and data protection.

An innovative national web portal and LMS

MACMIA plans to create a national web portal to consolidate initial training, apprenticeship and continuing education programs. This portal will integrate an LMS for tracking learning modules and an AI recommendation engine to customize the training plans.

The MACMIA addresses the key priorities in the specifications for the call for expressions of interest in Skills and Professions of the Future by organizing a continuum of training ranging from three-year to eight-year degrees and by promoting the sovereignty of the French AI and data industry through education. It takes a proactive approach to meet the skills needs of new technological and industrial sectors, while ensuring that humans remain at the heart of these transformations.

Academic partners: Institut Mines-Télécom (IMT), leader (schools involved: IMT Mines Alès, IMT Atlantique, IMT Nord Europe, Mines Saint-Etienne, Institut Mines-Télécom Business School), ESIGELEC, University of Technology of Troyes (UTT), Campus of Professions and Qualifications of Excellence (CMQE) – Occitanie, Campus of Professions and Qualifications in Design and Industry of the Future, Campus of Professions and Qualifications of Excellence in Aeronautics – Pays-de-la-Loire.

Economic partners: Cap Digital competitiveness cluster, CIMES competitiveness cluster, Cité de l'IA / MEDEF Lille Métropole. Key Accounts: Festo, Valeo, Assystem, Cisco Systems, Capgemini Engineering, Carrefour. SMEs: ESII, CILcare.

Skills Operator: OPCO Atlas

Support for the project MACMIA is supported by the French Association for Artificial Intelligence (AFIA), the Alliance Industrie du Futur (AIF), operator of the Strategic Sector Contract "Solutions for Industry of the future", the competitiveness clusters Nextmove, the mobility cluster in the Ile-de-France and Normandy regions, Minalogic, the digital transformation cluster in the Auvergne-Rhône-Alpes region, Image & Networks, the digital innovation cluster in Brittany and the Pays-de-la-Loire regions, Eurobiomed, the Healthtech cluster in the South of France, NAE Normandy, network of actors in the aeronautics, space, defense and security sectors in the Normandy region, UIT Champagne-Ardenne, the union of textile industries in the Grand Est region, the French Building Federation (FFB), a professional organization of construction companies, the Village by CA, a national startup accelerator network, Handitech, an ecosystem of stakeholders committed to technologies for and with people with disabilities; and companies: Renault, ST Microelectronics, Siemens, EDF, IBM, AMD-Xilinx, SAS Institute, Société Générale, Crédit Agricole, Aptar Pharma, Semaxone, Kyomed, Diappymed, Ardans, Callimedia and Garnica.

About Institut Mines-Télécom www.imt.fr/en

Institut Mines-Télécom is the leading public group of French engineering and management schools to be placed under the supervisory authority of the Ministry of the Economy, Finances and Industrial and Digital Sovereignty. It is a public research and higher education institution made up of eight public graduate schools: IMT Atlantique, IMT Mines Albi, IMT Mines Alès, IMT Nord Europe, Institut Mines-Télécom Business School, Mines Saint-Étienne, Telecom Paris and Telecom SudParis as well as two subsidiary schools: EURECOM and InSIC. It leads and develops a rich ecosystem of partner schools and economic, academic and institutional partners and players in training, research and economic development. Created to meet France's needs in economic and industrial development since the 19th century, Institut Mines Télécom's graduate schools have supported all the communications and industrial revolutions. Through its research and its training of engineers, managers and PhD students, Institut Mines-Télécom tackles the major industrial, digital, energy and environmental challenges in France, Europe and around the world. Today, Institut Mines-Télécom and its 10 schools are imagining and building a world that combines science, technology and economic development with a respect for the planet and the people who live on it. It is double Carnot certified and trains 13,600 students every year.

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