Innovation Project — Vocational Training

IDEPTECH

Intelligent automation & digital tools for graphic pre-production and technology management through AI & programming

IES Josep M. Llompart | IES Politècnic | AMPO&COLOR | EU Co-funded · FSE+

THE PROBLEM

Why does this project exist?

Manual, repetitive processes

Graphic pre-production still relies heavily on manual tasks with limited automation, increasing error risk and wasting resources.

Gap between education & industry

Industry already works with intelligent systems, but training programmes haven't kept pace.

AI as an opportunity

Generative AI lets students build scripts without advanced coding — transforming them into solution creators.

Need for hybrid profiles

Market demands professionals who combine graphic arts expertise with technical and digital skills.

THE PROJECT

What is IDEPTECH?

A collaborative project that brings together **Graphic Arts** and **IT** to build real digital tools — solving actual workflow problems in graphic pre-production.

Python scripting | Generative AI | Digital imposition | Web micro-apps

🎨 Graphic Arts provides

Real production problems, quality criteria, and use cases from the industry.

💻 IT provides

Technical support and development guidance for building digital solutions.

🏭 AMPO&COLOR provides

Industry validation, real-world testing, and professional certification.

LEARNING METHODOLOGY

Learning by doing — shadowing in action

Industry experts

Present real challenges and workflows

→

Observe & analyse

Identify pain points and inefficiencies

→

Build & iterate

Design, code and refine with feedback

→

Validate in production

Test in real workflows and certify

Students move from **software users** to **solution creators**, working on real problems with real feedback from the industry.

PARTICIPANTS

Who is involved?

EDUCATIONAL CENTRE

IES Josep M. Llompart

Digital Pre-press (17) · Graphic Printing (14) · Design & Publishing (27)

Graphic Arts

EDUCATIONAL CENTRE

IES Politècnic

Microcomputer Systems & Networks (30 students)

Information Technology

INDUSTRY PARTNER

AMPO&COLOR

Professional graphic company providing real-world use cases and industry validation.

Industry mentor

~90	4–5	2+1
students	teachers	schools+company

PROJECT ROADMAP

5 activities across 6 months

JAN – FEB

Diagnosis

Map pain points, gather industry input

FEB – MAR

Scripts & tools

Develop 8–12 Python scripts + imposition engine

MAR – APR

Web micro-app

Flask app integrating all tools

APR – MAY

Validation

Real-world testing, industry sign-off

MAY – JUN

Dissemination

Open Git repo, workshops, presentations

DELIVERABLES

What students will build

Python scripts

8–12 automation scripts: margin checks, resolution, ICC profiles, fonts

Imposition engine

Modular Python motor for digital imposition

Web micro-app

Flask app for file validation and automation

Open repository

Public Git repo for other schools to adopt

All tools are modular — they can be adapted by other vocational families

IMPACT

Expected outcomes

40–60% reduction in manual pre-production time

8–12 operational Python scripts deployed

~90 students trained in AI & automation

1 live web application for validation

All outcomes published as open documentation for any school or company

BEYOND THE PROJECT

Transferable to other fields

The modular design means tools can travel to other vocational families — far beyond graphic arts.

Administration

Document processing, compliance checks

Commerce & Marketing

Catalogue creation, label review

Audiovisual

File management, format control

Health & Services

Report generation, document automation

IDEPTECH · 2025–2026

From students to solution builders.

A project where real industry problems meet real student solutions — building the hybrid, technology-ready professionals that the graphic and digital sector needs.

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Co-funded by the European Union · Ministry of Education, VET & Sports · FSE+