

## Strengthening the STEAM Curriculum at National and EU level

### Recommendation 1: Redefine STEAM as a Holistic Curriculum

- EU Level: The European Commission should issue specific guidelines to Member States on the development of a STEAM curriculum that places equal emphasis on science literacy and arts into STEM education, ensuring that creativity and innovation are central to all areas of learning.
- National Level: National education ministries should revise their educational frameworks to include STEAM as a core element, moving beyond STEM-centric policies. This revision should highlight interdisciplinary connections and encourage the development of skills that combine technical knowledge with creative problem solving.

### Recommendation 2: Develop STEAM Learning Materials and Teacher Resources

- EU Level: Horizon Europe funding should be directed towards projects that develop open-access, innovative STEAM teaching materials and digital tools that support teachers in delivering interdisciplinary education.
- Local Level: Local governments and educational institutions should provide teachers with access to STEAM-specific learning materials and professional development opportunities. This includes creating resource libraries that feature case studies, lesson plans, and best practice that demonstrate the benefits of an integrated STEAM approach.

## Enhancing the Learning Environment and Teacher Training

### Recommendation 3: Prioritise STEAM Training for Educators

- National and EU Level: Policy makers should mandate the integration of STEAM training into teacher education programs, both at the initial training stage and through continuous professional development (CPD). The European Commission could offer Erasmus+ funding specifically for teacher exchanges and training programs focused on STEAM methodologies. In addition, there should be more focus on “train-the-trainer” programs, which enable national training institutions to adapt EU resources to specific contexts using tailored content and tools
- Local Level: Local education authorities should facilitate partnerships between schools and industries to provide teachers with hands-on experience in STEAM fields. This real-world exposure will equip educators with practical knowledge that they can transfer into the classroom.

### Recommendation 4: Foster Collaborative Learning Environments

- EU Level: Encourage the development of collaborative networks of schools across Europe, such as Open Schooling initiatives, to promote knowledge exchange and the dissemination of successful STEAM practices. The European Commission could support this through Horizon Europe’s cluster on “Inclusive and Creative Societies”, ensuring that schools are resources and ideas on integrating arts into STEM education.
- Local Level: Schools should foster environments that encourage collaboration not just within the school community, but also with external stakeholders, such as local business, cultural institutions, and scientific organisations. This helps ground learning in real-world contexts and creates more engaging and relevant educational experiences for students.

## Aligning STEAM with Societal and Industrial Needs

<b>Recommendation 5: STEAM for Societal Impact</b>	<b>Recommendation 6: Encourage Partnerships with Industry</b>
<ul style="list-style-type: none"> <li>EU and National Levels: The European Commission should frame STEAM education as a critical tool for addressing societal challenges in its policy initiatives. For example, integrating STEAM education into the Green Deal initiatives can provide students with the interdisciplinary skills needed to address complex issues like climate change. National governments should align their education policies with these frameworks to ensure that STEAM education plays a role in solving societal challenges.</li> </ul>	<ul style="list-style-type: none"> <li>EU Level: Horizon Europe should continue to fund projects that build partnerships between educational institutions and industries, particularly in sectors that require both technical and creative skills, such as digital innovation, design, and renewable energy. These partnerships can help align educational outcomes with labour market needs, ensuring that students are equipped with the skills required for future jobs.</li> <li>Local Level: Local education authorities should facilitate industry partnerships that provide students with opportunities to engage in project-based learning that reflects real-world challenges. For example, schools could collaborate with local businesses to develop projects focused on sustainable development or digital transformation. To prevent undue corporate influence, clear legislative frameworks should be put in place.</li> </ul>
<b>Promoting Equity, Diversity, and Inclusion in STEAM</b>	
<b>Recommendation 7: Broaden the Scope of Inclusion Policies</b>	<b>Recommendation 8: Promote Intersectional Approaches in STEAM</b>
<ul style="list-style-type: none"> <li>EU and National Levels: While gender diversity remains critical, future policies should adopt a more comprehensive approach to inclusion in STEAM education, addressing barriers faced by ethnic minorities, low-income students, and students with disabilities. The European Commission should update the Digital Education Plan to reflect a broader scope of inclusion, ensuring that all underrepresented groups have access to STEAM education.</li> </ul>	<ul style="list-style-type: none"> <li>National and Local Levels: National government should ensure that inclusion in education acknowledges the intersecting challenges faced by students who belong to multiple underrepresented groups. Local schools should be encouraged to implement targeted interventions to support these students, such as mentorship programs and scholarships for underrepresented groups pursuing STEAM careers. Flexible educational approaches that address the needs of diverse and vulnerable groups should receive greater support.</li> </ul>