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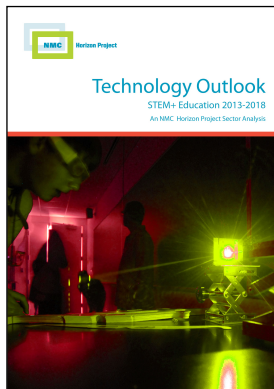E info@nmc.org

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NMC, CSEV, UNED, and IEEE Release
Technology Outlook for STEM+ Education 2013-2018

Madrid, Spain (October 16) — The *Technology Outlook for STEM+ Education 2013-2018: An NMC Horizon Project Sector Analysis* was released as a collaborative effort between the New Media Consortium (NMC), the Centro Superior para la Enseñanza Virtual (CSEV), Departamento de Ingeniería Eléctrica, Electrónica y de Control at the Universidad Nacional de Educación a Distancia (UNED), and the Institute of Electrical and Electronics Engineers Education Society (IEEE). This report will inform education leaders about significant developments in technologies supporting STEM+ (science, technology, engineering, and mathematics) education.

"Campus and school leaders along with practitioners across the world use the Horizon Project as a springboard for discussions around emerging technology," says Dr. Larry Johnson, CEO of the NMC and co-principal investigator for the project. "By examining these technologies through a STEM+ lens, the report will help educators to think more critically about how emerging technology can engage learners in the sciences, engineering, and mathematics and push the boundaries on how they related to the world around them."

Twelve emerging technologies are identified across three adoption horizons over the next one to five years, as well as key trends and challenges expected to continue over the same period, giving educators, administrators, and policymakers a valuable guide for strategic technology planning across STEM+ education. The addition of the "+" in the acronym incorporates communication and digital media technologies in the traditional four areas of study.

The *Technology Outlook for STEM+ Education 2013-2018* recognizes **learning analytics, mobile learning**, **online learning**, and **virtual and remote laboratories** as technologies expected to enter mainstream use in the near-term horizon of one year or less. **3D printing**, **games and gamification**, **immersive learning environments**, and **wearable technology** are seen in the mid-term horizon of two to three years. Finally, **flexible displays**, **the Internet of Things**, **machine learning**, and **virtual assistants** emerged in the far-term horizon of four to five years.

The subject matter in this report was identified through a qualitative research process designed and conducted by the NMC for the entire *NMC Horizon Report* series that engages an international body of

experts in education, technology, business, and other fields around a set of research questions designed to surface significant trends and challenges and to identify emerging technologies with a strong likelihood of adoption in global STEM+ education. The *Technology Outlook for STEM+ Education 2013-2018* details the areas in which these experts were in strong agreement.

"The report makes it very clear that online learning has proliferated across all STEM+ fields," said Daniel Torres, CEO of CSEV and co-principal investigator for the project. "Other emerging technologies that appear in the report, such as virtual and remote laboratories and immersive learning environments, are accelerating this progression."

"This sector-based analysis provides valuable insight into the trends and challenges in particular fields and makes even clearer the key cross-sector trends," noted Sergio Martin, assistant professor at UNED and a co-principal investigator for the project.

The *Technology Outlook for STEM+ Education 2013-2018* is available online, free of charge, and published under a Creative Commons license to facilitate its widespread use, easy duplication, and broad distribution.

> Download the *Technology Outlook for STEM+ Education 2013-2018* at go.nmc.org/2013-stem.

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About the New Media Consortium (NMC)
The NMC is an international not-for-profit consortium of learning-focused organizations dedicated to the exploration and use of new media and new technologies. For 20 years, the NMC and its members have dedicated themselves to exploring and developing potential applications of emerging technologies for learning, research, and creative inquiry. For more information, visit www.nmc.org.

About the Centro Superior para la Enseñanza Virtual (CSEV)
CSEV is a Spanish non-profit organization created to promote e-learning through the implementation of ICT in education. CSEV activities are intended to: i) promote knowledge creation and transfer among individuals, businesses and institutions, ii) reduce time-to-implementation of new skills and knowledge; iii) adapt learning options to social needs and individual skills and preferences, and iv) eliminate geographical and social barriers to higher and lifelong education. In order to do so, CSEV promotes the collaboration with universities, experts, institutions and leading companies in the world to become a world-class source in the field of virtual training and education. Learn more at www.csev.org.

About the Institute of Electrical and Electronics Engineers Education Society (IEEE)
The IEEE Education Society is an international organization that promotes, advances, and disseminates state-of-the-art scientific information and resources, related to the Society's field of interest, and provides professional development opportunities for academic and industry professionals. The Education Society's field of interest is the theory and practice of education and educational technology involved in the effective delivery of domain knowledge of all fields within the scope of interest of IEEE. Learn more at www.ewh.ieee.org/soc/es/.

About the Universidad Nacional de Educación a Distancia (UNED)
UNED is the only state-run Spanish distance-learning university, with centers throughout the country and 18 centers outside Spain. Since 1972, UNED has been a center of excellence aiming at making higher

education accessible to everyone. UNED is one of the largest European universities with around 260,000 students, most of them adult, near 1,500 teachers and 7,100 tutors. UNED delivers also many open courses for lifelong learning continuous education and Is currently quite involved in the UNED Abierta initiative. UNED Abierta explores new educational approaches based on bringing together, organizing and facilitating access to an extensive range of open educational materials. UNED Abierta also offers new ways to create open content collaboratively, with the participation of the whole educational community: teachers, tutors, researchers and students can both generate and consume content.

Researchers at the Electrical, Electronic and Control Engineering Department (DIEEC) of UNED have more than twenty years of experience covering different developments within the so-called Technology Innovation frameworks and their ensuing applications. Learn more at www.uned.es.