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Nota di contenuto	Acknowledgements -- Study Team and Report Authors -- External Reviewers -- Preface (Executive Summary) -- Overview and Recommendations -- 1 Convergence Platforms: Foundational Science and Technology Tools -- 2 Convergence Platforms: Human-Scale Convergence and the Quality of Life -- 3 Convergence Platforms: Earth-Scale Systems..- 4 Methods to Improve and Expedite Convergence -- 5 Implications: Human Health and Physical Potential -- 6 Implications: Human Cognition and Communication and the Emergence of Cognitive Society -- 7 Implications: Societal Collective Outcomes, including Manufacturing -- 8 Implications: People and Physical Infrastructure -- 9 Implications: Convergence of Knowledge and Technology for a Sustainable Society -- 10 Innovative and Responsible Governance of Converging Technologies -- Appendices A - H.

Sommario/riassunto

Convergence of knowledge and technology for the benefit of society (CKTS) is the core opportunity for progress in the 21st century, based on five principles: (1) the interdependence of all components of nature and society, (2) enhancement of creativity and innovation through evolutionary processes of convergence that combine existing principles, and divergence that generates new ones, (3) decision analysis for research and development based on system-logic deduction, (4) higher-level cross-domain languages to generate new solutions and support transfer of new knowledge, and (5) vision-inspired basic research embodied in grand challenges. Solutions are outlined for key societal challenges, including creating new industries and jobs, improving lifelong wellness and human potential, achieving personalized and integrated healthcare and education, and securing a sustainable quality of life for all. This report provides a ten-year “NBIC2” vision within a longer-term framework for converging technology and human progress that began with a previous study on “NBIC” fields: nanotechnology, biotechnology, information technology, and cognitive science (Roco and Bainbridge, 2003). This is truly an impressive body of work, which advances a transformative collection of concepts that could impact many areas of society and science. The ideas of this study are exciting. Tinsley Oden, University of Texas, Austin (April 2013) The CKTS study presents inspirational ideas behind the concept of convergence and identifies ground-breaking opportunities for human progress through such convergence. Christos Tokamanis, Nanotechnology and Converging Technologies, EU, Brussels (May 2013) The study provides a systematic and unified, internationally benchmarked framework for convergence that is relevant to policymakers, entrepreneurs, researchers, and the general public. Jo-Won Lee, Hanyang University, Korea (June 2013) I consider .. the first NBIC study in 2001.. as an historical landmark that has caused a new dynamic in the reflection on these new technologies within the broad scientific and governmental community. Frank Theys, Co-producer for public broadcasters ZDF/ARTE, Germany & France (June 2013).
