The World Infrastructure Forum opens its second day with artificial intelligence, technological sovereignty, financing, urban planning, and resilience at the center of the debate

- The 400 attendees from 44 countries across all five continents held a minute of silence at noon in memory of the victims of yesterday's railway accident.
- The second and final day, held under the theme *Enabling the Transformation*, brings together business, institutional, financial, and academic leaders in Madrid to discuss how to turn infrastructure transformation into reality.

Madrid, October 29, 2026.- The World Infrastructure Forum (WIF) opened its second and final day in Madrid today, focused on the conditions needed to turn infrastructure transformation into reality. Flagswere flown at half-mast in memory of the victims of yesterday's railway accident. At noon, the 400 attendees from 44 countries across all five continents held a minute of silence to honor the victims, express their deepest condolences to those who have lost loved ones, show their support for the injured, and extend their full solidarity to everyone facing hours of anguish and uncertainty.

The morning's discussions focused on artificial intelligence, the local economic impact of infrastructure investment, financing, and the resilience of critical systems.

Artificial intelligence and technological sovereignty open the debate

The day opened with *Next Generation Infrastructure Systems: The AI-Enabled Future of Engineering, Construction & Operations*, moderated by **Isidora Kosta,** Head of Built Environment and Infrastructure Industry Agenda at the World Economic Forum (WEF). The panel featured **Alicia López**, Chief Innovation Officer at Flatiron Dragados; **Dimitris Bountolos**, CIIO at Ferrovial; **Ingeborg Rocker,** Professor and Chair of Industrial Innovation and Digital Transformation at the Georgia Institute of Technology; **Christiane Mann**, Head of Industry Affairs at Siemens Buildings (Siemens Smart Infrastructure); and **Will Cavendish**, Global Digital Services Leader at Arup. The discussion explored how artificial intelligence is transforming the entire infrastructure lifecycle, from engineering and construction to operations.

Alicia López noted that, in North America, project owners are moving toward more collaborative delivery models and increasingly requiring BIM models and AI tools in their contracts. The next step, she explained, is to rethink how work gets done by redesigning

end-to-end workflows and deploying more technology to deliver increasingly complex projects faster.

Dimitris Bountolos stressed that data quality is essential because reliable, contextualized data is the foundation of any AI application. He also highlighted the need to harmonize data for processing, alongside a more agile workforce with an integrated mindset, capable of rapid iteration, breaking down silos, and maintaining critical judgment when evaluating results.

Ingeborg Rocker emphasized the importance of establishing clear criteria for AI systems and continuously evaluating their outputs, while ensuring that humans retain the ultimate decision-making authority. She also underscored the need to inspire younger generations and provide ongoing professional training to keep people motivated and engaged.

Christiane Mann highlighted the shift from static assets to dynamic infrastructure systems that continuously learn from past events, anticipate future developments, and improve performance. Achieving this, she noted, requires an efficient, environmentally compatible design that minimizes potential impacts and enables continuous optimization.

Will Cavendish highlighted how AI, from predictive to generative, can make the most of available technology to enable faster, more cost-effective design, while improving resilience and reducing carbon emissions.

The next session, *Infrastructures as Lifelines: Cybersecurity, AI and Technology Sovereignty*, was moderated by **Claudio Feijóo**, Full Professor & Jean Monnet Chair in Technology Diplomacy and Digital Sovereignty at the Universidad Politécnica de Madrid (UPM). The panel brought together **Stefano Quintarelli**, General Partner at Rialto Ventures and founder of I.NET, the first Italian ISP and the first Italian Internet unicorn; **Irene Blázquez**, Director of the Center for the Governance of Change at IE University; **José Marino García**, Executive Director of Capitalization at the Spanish Society for Technological Transformation; and **Elena Grande**, Director of Information Systems and Technology at Bank of Spain. The discussion examined whether protecting critical infrastructure can provide a competitive advantage in the race for technological sovereignty, while comparing European and Chinese approaches to securing supply chains.

Stefano Quintarelli warned that excessive optimization can make systems more fragile by eliminating redundancy and increasing their vulnerability to disruptions. He stressed the need to invest in human capital, develop domestic chip capabilities, and manage the

digital frontier—the relationship with the small number of providers that dominate the technology landscape.

Irene Blázquez identified three pillars of technological sovereignty: redundancy, to prevent single points of failure; resilience, to withstand disruptions and recover quickly; and governance, to determine who sets the rules and is held accountable. She emphasized that resilience cannot be built in the middle of a crisis but must be established from the outset through preventive planning and coordination between authorities and operators.

José Marino García explained that sovereignty means retaining control over strategic decisions, with the degree of sovereignty reflecting the level of control over infrastructure, technology, and the ability to switch providers. To achieve this, he identified investment in computing capacity with data hosted within the European Union as a priority, enabling model training, fine-tuning, and inference.

Elena Grande noted that Europe has sufficient high-quality data, particularly in regulated sectors. However, interoperability challenges and technological barriers prevent institutions from using these data collaboratively. She therefore advocated a federated approach that enables data sharing without compromising institutional control or confidentiality.

Beyond concrete and a new generation of engineers

The session *Beyond Concrete: The Local Economic Dividend*, moderated by **Natalia Uribe**, Cities Director and Urban Futures at BDP, London (member of ID&E group and Nippon Koei), featured **Andrés Rodríguez-Pose**, Princesa de Asturias Chair and Professor of Economic Geography London School of Economics and Political Science (LSE); **Jim Hall**, ICE Past President and Professor of Climate and Environmental Risk at the University of Oxford and Chair of the Enabling Better Infrastructure Programme; **Angélica Núñez**, Manager of the Global Department in the Urban, Subnational Finance, Tourism and Disaster Management (USTDM) at the World Bank Group; and **Anupam Yog**, Managing Partner at XDG Labs. The panel argued that infrastructure should be measured by the economic activity it generates, including jobs, local supply chains, tourism, urban regeneration, and housing.

Andrés Rodríguez-Pose warned that infrastructure can widen regional disparities if it is not supported by strong institutions, talent, and a clear strategy. Jim Hall highlighted affordability as a frequently overlooked factor in ensuring that infrastructure delivers a real economic impact. Anupam Yog stressed that infrastructure only succeeds when people use it and it improves their daily lives, pointing to Singapore as a model that other

places could learn from. Angélica Núñez emphasized that infrastructure should connect people with opportunities within a regional ecosystem where large and small cities complement one another.

Meanwhile, the session *Beyond Engineering: Redefining the Profession, Transforming the World*, moderated by **Luis Villaroya**, President of EPTISA, brought together **Carlos Mallo**, CEO and Founder of Innoceana; **Sakthy Selvakumaran**, Founder and CEO of Bkwai; **Burak Acilan**, Founder of ConcR GmbH; and **María Jiménez Galindo**, Head of Project and Construction Management at ACUAES and Member of the Governing Board of ICCP. The speakers explored how a new generation is reshaping the engineering profession, from artificial intelligence to sustainable construction.

Carlos Mallo argued that civil engineers must put nature first. “The sector has focused on building with concrete and steel, but it can also restore and regenerate. With billions of euros set to be invested in restoration across Europe, this is an opportunity for the profession to take an active role in tackling climate change. Madrid could become a hub for nature-based solutions,” he said.

Sakthy Selvakumaran highlighted the importance of understanding physical systems and assessing uncertainty and risk, skills that apply across fields as diverse as bridge design, satellite data, and rescue operations. “Addressing today’s challenges requires systems thinking, understanding how engineering, nature, politics, and communities interact, and communicating these connections in terms of cost, safety, and carbon emissions to make the case for investing before disaster strikes,” she said.

Burak Acilan stressed that earning trust in an industry where mistakes have real consequences requires speaking the language of construction, being transparent about what can be delivered and what can go wrong, taking responsibility when things go wrong, and understanding client's real challenges. He added that entrepreneurship is not about failure but a fast track to gaining experience.

María Jiménez Galindo emphasized that civil engineering goes beyond calculations and design: it transforms the environment and improves people's lives, as she witnessed in a wastewater treatment plant project that helped restore a river and its wildlife. “To attract younger generations, we need to communicate the range of career opportunities more effectively, incorporate profiles in fields such as big data and digital twins, and strengthen collaboration between universities, companies, and institutions. Professional associations also offer young engineers guidance, connections, and credibility,” she said.

Financing and resilience: from market perspective to crisis readiness

Following the break, the plenary session *Outlook Infrastructure*, moderated by **Linda Munyengeterwa**, Global Director, Public-Private Partnerships (PPPs) and Advisory at the World Bank Group (WBG), brought together **Marco Pugliese**, Partner and Head of Digital Infrastructure for Europe at Global Infrastructure Partners; **Laya Madduri**, Joint Secretary at the Infrastructure Finance Secretariat of India's Ministry of Finance; **Martin Raiser**, Senior Representative for European Economic Cooperation at the World Bank Group (WBG); **Mike Hochman**, Global Commercial and Business Development Principal Vice President at Bechtel; and **Nuria Haltiwanger**, CIO of ACS and CEO of Iridium. The panel offered a shared view of the market, focusing on demand, available capital, and investor priorities.

Marco Pugliese noted that capital is abundant but only flows when the right opportunity emerges, with the right pricing and risk profile. "Investors are highly selective about managers, projects, and markets, and are focusing on digitalization, the energy needed to power it, and the replacement of aging infrastructure," he said.

Laya Madduri highlighted India's experience as an example of public-private partnerships built on transparent processes, clear rules, and predictable cash flows. Following the challenges faced by early toll-road models due to traffic uncertainty, the hybrid annuity model helped distribute risk more effectively and proved better able to anticipate fluctuations, enabling assets to be monetized with greater confidence.

Martin Raiser explained that infrastructure investment generates greater returns when multiple projects are concentrated in the same area. However, he cautioned that anchor investment alone is not enough. "Without complementary investment and policy changes, there is no development," he said.

Mike Hochman stressed that turning projects into built infrastructure depends on delivery capacity, particularly the workforce, supply chains, and public-sector staffing. He also emphasized the importance of market maturity, noting the significant difference between an announced project pipeline and a portfolio of mature projects with their scope defined, engineering completed, and permits secured on time.

Nuria Haltiwanger argued that the focus should be on well-structured, long-term programs rather than individual projects. She advocated capital recycling, supported by well-designed termination clauses that attract different investors at each stage, as a foundation for durable, sustainable models.

The morning concluded with the session *When Systems Fail: Building Infrastructure for an Age of Disruption*, moderated by **Iñigo J. Losada**, CEO at ACS University and Distinguished Researcher IHCantabria. Speakers included **Charles Werth**, Professor, Department Chair, and the Bettie Margaret Smith Chair in Environmental Health Engineering in the Maseeh Department of Civil, Architectural and Environmental Engineering at the University of Texas at Austin; **Andrew Smith**, Co-founder of Fathom-Swiss Re; **Guillermo Franco**, Director and Founder of Parametric Factory; **Jim Hall**, ICE Past President and Professor of Climate and Environmental Risk at the University of Oxford, Chair of the Enabling Better Infrastructure Programme and an internationally recognized expert in risk analysis; **Kevin Tynes**, Chairman of Nippon Koei in Latin America and the Caribbean; **Masanobu Shimosaka**, President of Nippon Koei in Latin America and the Caribbean; and **Stéphane Hallegatte**, Chief Economic Adviser for Climate at the World Bank Group. The discussion examined how critical systems can anticipate, withstand, and recover from major disruptions, with a focus on systemic risk and investment in resilience.

Charles Werth noted that the rarity of major disasters can cause momentum for change to fade over time. “For improvements in early warning and prevention to last, they need champions and sustained support, even when everything appears to be working well,” he said.

Andrew Smith explained that floods are difficult to predict because of their complexity and data requirements. However, data and models have improved significantly, and AI is enhancing these capabilities, although it cannot replace physics-based models.

Guillermo Franco explained that risk can be avoided, retained, mitigated, or transferred. Parametric insurance is a risk-transfer tool that complements mitigation by providing rapid liquidity after a disaster, helping communities and businesses recover sooner.

Jim Hall stressed that disasters are challenges involving sociotechnical systems. Protecting infrastructure is not enough; systems must also be able to warn, respond, recover, and learn. He also highlighted the need for rigorous analysis to inform difficult trade-offs.

Kevin Tynes noted that the 2023 drought illustrates how extreme environmental conditions can recur, making infrastructure adaptation essential. Measures such as building new reservoirs can help ensure systems continue to operate during such events.

Masanobu Shimosaka pointed out that a cascading failure had demonstrated that investment in prevention costs far less than the damage caused by a disaster. Revising

design codes alone is not enough, he said. “We need to plan for the entire system to make it more resilient.”

Stéphane Hallegatte concluded that resilience extends beyond physical assets to encompass the wider system and its users. “If users can manage disruptions, costs go down. Building back better requires political leadership, advance preparation, and social protection,” he said.

About the World Infrastructure Forum (WIF)

The World Infrastructure Forum is an international platform that fosters dialogue and collaboration among institutions, companies, universities, investors, and experts to address the transformation of infrastructure. Its agenda encompasses energy, water, and resource systems; climate adaptation and resilience; artificial intelligence and digitalization; financing; and mobility and urban development.

WIF is a joint initiative of the MIT Department of Civil and Environmental Engineering, the School of Civil Engineering at the Universidad Politécnica de Madrid (UPM), the World Bank Group, and The University of Texas at Austin.

The Forum is supported by a committee of leading organizations representing the entire infrastructure value chain, including ACS, Ferrovial, ACCIONA, Aecom, BCG, COX, Prime Infra, Rogers Electric, AGI, Alvarez & Marsal, Arup, BBVA, Jacobs, Siemens, Snam, Vinci, Bechtel, Cemex, Citi, Eiffage, Eptisa, Liberty Mutual, Macquarie, Meridiam, Montera, Nippon Koei, OHLA, Prologis, Renfe, Swiss Re, Typsa, Webuild, Yapı Merkezi, Veolia, ADB, Digital Twins, École Nationale des Ponts et Chaussées, Escuela de Caminos (University of Cantabria), IDB, Institut Jacques Delors, Tongji University, El País, Mediatree, EMT Madrid and Madrid WCC.

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