Cities can unlock a combined $60 billion by hyperconnecting their urban ecosystems, according to new ESI ThoughtLab study

November 20, 2019 *(Philadelphia, PA)* – Today, ESI ThoughtLab announced the key findings from its *Building a Hyperconnected City* program, a year-long global study of 100 cities using technology to improve, connect, and secure all areas of their ecosystem. The study, supported by a coalition of industry leaders, shows how cities can go beyond current smart solutions to become "hyperconnected" hubs generating large economic, social, and environmental benefits by linking key elements of their urban landscape—from transportation to public health and security, from government to business and residents. ESI ThoughtLab's economists estimate that, worldwide, cities could collectively enjoy a return on investment of as much as $60 billion if they were to become fully hyperconnected.

The findings were officially announced at the Smart City Expo World Congress in Barcelona, Spain during a keynote speech by Lou Celi, CEO of ESI ThoughtLab. According to estimates by the reporting cities, the average return on investment on smart city initiatives ranges from 3 percent to 4 percent. As cities become more interlinked, their ROI grows. Returns in dollar terms can range from $19.6 million per city for hyperconnected beginners to $83 million per city for hyperconnected leaders. This is on top of sizable social, quality of life, and environmental benefits—such as reductions in crime, congestion, and pollution, as well as improvements in public health and living conditions.

Based on the research findings, ESI ThoughtLab recommends that cities striving to become hyperconnected urban centers follow a roadmap that includes these elements already being applied by leaders in our study:

- Crafting an evidence-based business case and continuously monitor performance—analyzing ROI systematically with the right metrics.
- Calculating the full benefits including social, business, economic, and environmental benefits
- Capitalizing on advanced technologies—particularly various forms of AI—while also bearing in mind the importance of cybersecurity.
- Generating more value from data by gathering, integrating, and monetizing it in a responsible way, as well as sharing it with stakeholders as appropriate.
- Organizing resources within a largely centralized department and drawing on both internal and external staff to operate hyperconnected city programs.
- Using the ecosystem effectively, partnering with business and academic communities, but keeping crucial development and implementation tasks in-house.
- Ensuring all citizens are engaged and connected by seeking input from stakeholders and reaching out to disadvantaged populations.

A hyperconnected approach generates considerable returns in all areas of a city's ecosystem. For example, the research revealed that using technology to interlink different areas of public transit programs increases passenger satisfaction 38%, on-time arrival 33%, and transit ridership 29%. Digital public transit payment systems, used by 72% of cities surveyed, are particularly effective, with hyperconnected leaders recognizing a 6.5% ROI. Leaders also report a 4.9% return on real-time public transit apps, 4.8% on open loop payment systems, and 4.6% on mobility-as-a-service apps.

 "The real value comes not just from using technology to link assets within urban areas, such as mobility, safety, energy, and sustainability, but also from connecting city stakeholders, including governments, citizens, businesses, and academia. When these are all aligned, cities can reap the greatest economic, business, and social rewards," said Celi.

To become hyperconnected, cities may also need to overcome a series of roadblocks. Uncertainty among citizens and other stakeholders who feel their health, privacy, or other interests will be compromised by new technologies is one of the thorniest. The study found that cities like Moscow, Barcelona, and Stockholm alleviate this through effective communication and outreach to build citizen trust and engagement. Funding for smart initiatives is yet another hurdle, but there are many possible solutions, both public and private, that leaders around the world have adopted. Cities must also overcome policy and regulatory barriers—such as those around procurement—to get where they are going. And they must pay close attention to cybersecurity, since the costs of not doing so can mount into the millions.

"Getting past these roadblocks may not be easy," said Celi. "But the journey to hyperconnectivity will provide tremendous dividends to all city stakeholders—from citizens rich and poor, to residents young and old, to workers skilled and unskilled, and to businesses large and small."

To access the findings and publicly available materials from the study including an eBook, interactive online tool, and case studies, visit: https://econsultsolutions.com/esi-thoughtlab/hyperconnected-city/

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About the research coalition

ESI ThoughtLab is an innovative research firm providing fresh ideas and actionable insights through rigorous data analysis. We specialize in assessing the impact of technological, economic, and demographic shifts on companies, industries, and cities. ESI ThoughtLab 's team of seasoned economists and thought leaders have many years of experience in conducting urban analysis.

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Oracle offers a complete suite of integrated applications plus highly automated and secure generation 2 infrastructure featuring the Oracle Autonomous Database. With Oracle, customers can modernize their operations and take advantage of emerging technologies to better engage citizens and serve their communities.

Pennoni is a consulting engineering firm providing services that help communities and private sector clients alike navigate the ever-changing technological advancements available and learn how best to integrate "smart" solutions into today's built environment. As part of their involvement in the smart city initiative, they utilize and continue to discover new and innovative methods in the delivery of services for smart, sustainable, and resilient solutions for projects across the globe. Across all market sectors, Pennoni works with project owners, end users, stakeholders, and teaming partners to develop solutions that truly make Pennoni "Partners For What's Possible."

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