

# SDN-Enabled Network Virtualization for Industry 4.0 Based on IoTs and Cloud Computing

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**Abstract**— With the rapid development of digital and network technologies, Industry 4.0 is having a huge impact on commerce. In the manufacturing sector, enterprises that produce many customized products, and those that produce a few and different of products, have the opportunity to achieve the same production standards and costs as each other. In an intelligent factory, workers and operators are shifting from traditional machine operators to production process controllers, and staff who make adjustments to management and decisions, to optimize production processes. This work proposes a software-defined infrastructure, which is then deployed in an Industry 4.0 network environment. This infrastructure improves the overall operations of the network environment, the rate of data transmission and the quality of services provided.

**Keyword**— Software Defined Networking (SDN), Software Defined Infrastructure (SDI), Internet of Things (IoT), Network Function Virtualization, Industry 4.0



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