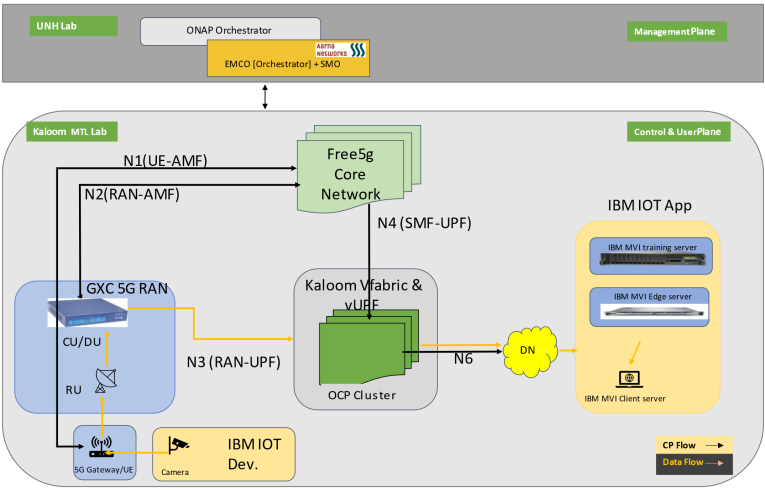# 5G SBP Use Case - Factory Floor Visual Inspection - ONE Summit Demo (November 2022)

Use this template to submit Use Cases for submission to the 5G Super Blueprint Use Case & Requirements Advisory Group. All input is required unless marked "(optional)"

Use Case Name:	Factory Floor Visual Inspection
Use Case Description:	demonstrate a factory floor visual inspection Use Case with hard hat and facemask detection using static transport slicing. Leverage the existing 5G SBP lab hosted @kaloom Montreal using Free5GC + ONAP + EMCO + Kaloom Fabric, UPF and vRouter with network slicing + GenXComm RAN + IBM visual inspection models and AI software running on Nvidia T4 GPUs + Aarna AMCOP + A10 FW
Problem Statement and how is the problem solved:	Problem Statement: Ensure safety on a factory floor Solution: Automated end-to-end solution with AI that detects and alerts when hard hat and/or facemask is not being worn by an individual.
Users Stories	- Worker A enters an area of the factory floor where hard hats are required. Worker A <u>IS</u> wearing a hard hat. The system detects that Worker A <u>IS</u> wearing a hard hat and responds with action A. - Worker B enters an area of the factory floor where hard hats are required. Worker B is <u>NOT</u> wearing a hard hat. The system detects that Worker B is <u>NOT</u> wearing a hard hat and responds with action B. - Worker C enters an area of the factory floor where facemasks are required. Worker C <u>IS</u> wearing a facemask. The system detects that Worker C <u>IS</u> wearing a facemask and responds with action C. - Worker D enters an area of the factory floor where facemasks are required. Worker D is <u>NOT</u> wearing a facemask. The system detects that Worker D is <u>NOT</u> wearing a facemask and responds with action D.
Goals and Requirements	**Mandatory Goals:** - Demonstrable Proof of Concept End to End system demonstrating: - Hard Hat detection - Facemask detection - Static Transport Slicing - Video shot in the lab depicting mandatory goals above. - Slideware - Build Guide Need to sort out which goals below are attainable, which are stretch, which are roadmap **Attainable/Stretch/Roadmap Goals (in addtion to above), prioritized:** "Live" demo at the ONE Summit venue. The blue box in the lower left in the below lab diagram is setup at the venue in Seattle and demonstrated live. - Massive IoT simulation. A massive IoT simulator (open source preferred) is used to demostrate scalability of the system. - Remote Attestation (Peraton Labs) - authenication of IoT devices (cameras).
Demo Storyline (optional)	
Interaction with other open source projects and components	- Free 5GC - ONAP - EMCO - Aarna AMCOP - A10 Firewall

Links to existing documentation (Build Guide, Slideware, etc), if available (optional).	 Lab data flow:
Links to existing demo/video, if available (optional).	
Links to existing code/repos, if available (optional).	