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AI for New Devices And Technologies at the Edge

D5.5 Specifications of the use cases of the "Digital Industry" domain

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Type	Report	**Dissemination Level**	*Confidential*
Version	1.0	**Status**	Final
Description	This document provides the specification of the use cases in the "Digital Industry" domain.		
Work Package	WP5 – Application Integration and Evaluation.		

Abstract (Published Summary)

This document concerns the use cases in the Digital Industry domain, in the context of WP5 Task 5.1 of the ANDANTE project. Within Task 5.1 only one use case “Indoor Positioning Recognition and People Counting” has been defined.

In many manufacturing and research environments, counting and tracking people in at-risk areas can be a necessity. Technological innovation and transitions of previously human-solved solutions have turned the focus of the industry to a digitization perspective. However, the digital industry also brings with it great needs and challenges such as energy-saving and respect for privacy. This task can be addressed with cutting-edge technology to meet the highest requirements of the digital industry. Systems based on neuromorphic technology can meet these requirements, exploiting an adequate pipeline of process and data management.

In this deliverable are presented the implementation processes for the Digital Industry use case of Indoor Positioning Recognition and People Counting. It is shown how the developed prototypes of neuromorphic hardware can be effectively employed in handling data collected from sensors, elaborate, and send results to user interfaces for possible applications.

Local data management and non-visual sensor objectives are set to face possible privacy issues. Challenges are then analyzed by presenting in various scenarios, solutions to address potential computational and data management needs. The main KPIs are also posed and considered for the performance evaluation of the neuromorphic-hardware-based demonstrators.

This use case has 3 sub-tasks for implementations by the partners IFAG, EESY and TUD. For each implementation, a high-level overview of software and hardware components is provided. Furthermore, the document describes how the use case will be implemented on the target neuromorphic hardware platform.