

This project has received funding from the ECSEL Joint Undertaking (JU) under grant agreement No 826655. The JU receives support from the European Union's Horizon 2020 research and innovation programme and Belgium, France, Germany, Netherlands, Switzerland



Addressing the call/topic: H2020 ECSEL-2018-2-RIA Research and Innovation Action





## Deliverable D4.10 – DNN 3D Module PPA

Work Package:	WP4 (Design and architecture)
Dissemination level:	Confidential
Official due date:	31 December 2021
Document editor:	Ilja Ocket (IMEC)
Contributing partners:	IMEC
Internal reviewers:	Björn Debaillie (IMEC), Arindam Mallik (IMEC)
Document version:	V1

© Copyright TEMPO Project. All rights reserved.

This document and its contents are the property of the TEMPO Partners. All rights relevant to this document are determined by the applicable laws. This document is furnished on the following conditions: no right or license in respect to this document or its content is given or waived in supplying this document to you. This document or its content is not be used or treated in any manner inconsistent with the rights or interests of TEMPO Partners or to its detriment and are not be disclosed to others without prior written consent from TEMPO Partners. Each TEMPO Partner may use this document according to the TEMPO Consortium Agreement.

## 1. Publishable summary

Analog In Memory Computing solution for DNN are being applied, but the existing solutions suffers from the significant need for on-chip memory and a huge cost of memory energy. We investigated the enablement of on-chip memory using the 3D techniques that can be scaled up for future DNN HW implementation. This deliverable reports the impact of 3D logic-memory partitioning for DNN hardware: how it can help to enable the huge data processing requirement in the DNN application domain, and what are the limitations and challenges.