

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

## D3.15 - STT-MRAM Mbit array validation

Work Package:	WP3 (Integration)
Dissemination level:	Confidential
Official due date:	31.08.2022
Document editor:	Sebastien Couet (IMEC)
Contributing partners:	IMEC
Internal reviewers:	Gabriel Pares (CEA), Ilja Ocket (IMEC)
Document version:	V 0.1

#### © 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

In this document, imec is reporting performance analysis of the STT-MRAM characterization array that was built during the TEMPO project. The array is targeting ~ 45nm diameter STT-MRAM pillars at a pitch of 200nm. The frontend logic transistors are fabricated on GlobalFoundries 40nm process node and the MRAM specific module is integrated in imec. Overall, we see good distributions for the key figures of merit of the technology. Importantly, we see that the issues faced in the past (series resistances, defectivity) have been resolved. These results will be also enablers for the ongoing ANDANTE project.