

ISO/TR 24463:2021-10 (E)

Digital validation by effective use of simulation

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms, definitions, and abbreviated terms	1
3.1	Terms and definitions	1
3.2	Abbreviated terms	2
3.3	Trademarks	2
4	Business case for computer simulation in early design stage	3
5	Major challenges in simulation	3
6	Digital validation technology	5
6.1	State of the art	5
6.2	1D CAE modelling of digitally integrated products	6
6.2.1	Introduction to example	6
6.2.2	Belt conveyor mechanism	6
6.2.3	Heat roll mechanism	9
6.3	Interface between simulations in different technical domains	12
6.3.1	Introduction to example	12
6.3.2	FMI/FMU-based co-simulations	12
6.3.3	Control of simulation time	15
6.4	Interface between 1D CAE and 3D CAD/CAE	16
6.4.1	Introduction to example	16
6.4.2	Realisation of 3D CAD models based on 1D CAE results	17
6.4.3	Modification of 1D CAE model based on 3D CAE results	18
6.5	Interface between original equipment manufacturer (OEM) and supplier	20
6.5.1	Introduction to example	20
6.5.2	Multi-enterprise modelling	20
6.5.3	Results	22
7	Summary and potential use of this document in the existing standards in the digital validation domain	23
7.1	Summary	23
7.2	Potential use of this document in the existing standards in digital validation domain	24
	Bibliography	25