

ISO/TR 3242:2022-10 (E)

Blockchain and distributed ledger technologies - Use cases

Contents		Page
Foreword		vi
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Use case processes	1
5	Template development	2
5.1	General	2
5.2	Functional Requirements	3
5.3	System architecture	3
5.4	Data Flows	4
5.5	Use Case Models	5
5.6	Categories	6
5.7	Category: Transversal	6
5.8	Category: Horizontal	7
5.9	Category: Vertical	7
5.10	Category: sustainable development goals	8
5.11	Category: status of use case	8
5.12	Category: Other use case classifications	9
6	Use case list and abstracts	10
6.1	Data Provenance	10
6.2	Fintech use cases	14
6.3	Supply Chain cases	18
6.4	Smart Energy use cases	22
7	Use case overview and insights by category	24
7.1	General	24
7.2	Insights - transversal categories	25
7.3	Insights - horizontal categories	26
7.4	Insights - vertical category	27
7.5	Insights - status	28
7.6	Sustainable development goals (SDGs)	29
7.7	Insights - blockchain implementation types	30
7.8	Insights - open source	31
8	Use cases: Data Provenance	32
8.1	Data Accountability (European Union)	32
8.1.1	Categories	32
8.1.2	Summary	33
8.1.3	User requirements	34
8.1.4	Force field analysis	39
8.2	Property Record Management System (PRMS) (India)	40
8.2.1	Categories	40
8.2.2	Summary	40
8.2.3	User requirements	43

8.2.4	Force field analysis	47
8.3	Student records management system (SRMS) India	47
8.3.1	Categories	47
8.3.2	Summary	48
8.3.3	User requirements	49
8.3.4	Force field analysis	53
8.4	Education certificates provenance (Singapore)	54
8.4.1	Categories	54
8.4.2	Summary	55
8.4.3	User requirements	57
8.4.4	Force field analysis	61
8.5	Content timestamp verification (Netherlands)	62
8.5.1	Categories	62
8.5.2	Summary	62
8.5.3	User requirements	64
8.5.4	Force field analysis	66
8.6	Self-sovereign ID (SSI) (Cyprus)	67
8.6.1	Categories	67
8.6.2	Summary	68
8.6.3	User requirements	70
8.6.4	Force field analysis	77
9	Use cases: Fintech	78
9.1	Accounts receivable financing system (China)	78
9.1.1	Categories	78
9.1.2	Summary	78
9.1.3	User requirements	80
9.1.4	Force field analysis	83
9.2	Interbank loan reconciliation and settlement (China)	83
9.2.1	Categories	83
9.2.2	Summary	84
9.2.3	User requirements	84
9.2.4	Force field analysis	87
9.3	Organized CHIT funds (India)	88
9.3.1	Categories	88
9.3.2	Summary	88
9.3.3	User requirements	90
9.3.4	Force field analysis	94
9.4	Transparent securitisation (Italy)	95
9.4.1	Categories	95
9.4.2	Summary	96
9.4.3	User requirements	97
9.4.4	Force field analysis	102
9.5	Pension process optimisation (China)	104
9.5.1	Categories	104
9.5.2	Summary	104
9.5.3	User requirements	105
9.5.4	Force field analysis	110
9.6	Decentralised Charity Platform (the Republic of Korea)	110
9.6.1	Categories	110
9.6.2	Summary	111
9.6.3	User requirements	113
9.6.4	Force field analysis	116
10	Use cases: Supply Chain	117
10.1	International trade transparency (Singapore)	117
10.1.1	Categories	117
10.1.2	Summary	118
10.1.3	User requirements	119
10.1.4	Force field analysis	123
10.2	Maritime Bill of Lading (Israel)	124

10.2.1	Categories	124
10.2.2	Summary	124
10.2.3	User requirements	126
10.2.4	Force field analysis	130
10.3	Franchised drugs and pharmaceutical equipment supply-chain management (China)	130
10.3.1	Categories	130
10.3.2	Summary	131
10.3.3	User requirements	132
10.3.4	Force field analysis	135
10.4	Anti-counterfeit solution for pharma industry (India)	136
10.4.1	Categories	136
10.4.2	Summary	136
10.4.3	User requirements	138
10.4.4	Force field analysis	142
10.5	IGP provenance traceability (Italy)	142
10.5.1	Categories	142
10.5.2	Summary	143
10.5.3	User requirements	145
10.5.4	Force field analysis	149
10.6	Universal Farm Compliance (Ireland)	149
10.6.1	Categories	149
10.6.2	Summary	150
10.6.3	User requirements	151
10.6.4	Force field analysis	156
10.7	International waste transportation management system (Netherlands)	156
10.7.1	Categories	156
10.7.2	Summary	157
10.7.3	User requirements	158
10.7.4	Force field analysis	164
11	Use cases: Smart Energy	165
11.1	Cooperative energy trading (Ireland)	165
11.1.1	Categories	165
11.1.2	Summary	165
11.1.3	User requirements	167
11.1.4	Force field analysis	170
11.2	Energy Trading with Transactive Energy Grids (India)	171
11.2.1	Categories	171
11.2.2	Summary	172
11.2.3	User requirements	173
11.2.4	Force field analysis	178
11.3	Renewable energy consumer grids (Spain)	178
11.3.1	Categories	178
11.3.2	Summary	179
11.3.3	User requirements	180
11.3.4	Force field analysis	184
	Annex A Use case exemplar	186
	Bibliography	188