

LENS _{PEMS}																		
Configurability	Adaptability		Dependability	Decisional- Autonomy	Interaction				Perception		Cognitive						Explainability	
	Adaptation trigger	Adaptation object			Human-robot-system interaction	Human-robot-system interaction feedback	Robot-to-robot-System to system interaction	Human-robot-system interaction safety	General Perception	Object Element recognition	Action	Interpretive	Envisioning	Acquired knowledge	Reasoning	Cognitive Human interaction		
Static Configuration	No Adaptation	No Adaptation	No-dependability	No-autonomy	No interaction	No feedback	No interaction	Intrinsic safety	No external perception	No Recognition	No-Action-Ability	No interpretive Ability	No envisioning ability	No Acquired Knowledge	No Reasoning	No Cognitive Human Interaction	No explainability	
Start-up Configuration	Human-triggered adaptation	Adaptation of a single part of the system	Mean failure dependability	Basic action	Direct control	Basic feedback	Communication of own status	Basic safety	Direct Single and Multi-parameter sensing	Feature detection	Defined action	Fixed sensory interpretation	Motion-prediction	Sense data and property knowledge	Reasoning from sense data	Fixed interaction	Passive recognition of the need of explainability	
User Run-time Configuration	Adaptation triggered by a single part of the system	Adaptation of various parts of the system	Fails Safe	Basic decisional autonomy	Direct physical interaction	Visual-feedback	Communication of task status	Basic operator safety	Low Level processing parameter sensing	Object Element detection	Decision based action	Basic environment interpretation	Dynamic-motion-prediction	Persistent sense data knowledge	Pre-defined reasoning	Task context interaction	Active recognition of the need of explainability	
Run-time Self Configuration	Adaptation triggered by various parts of the system	Collective adaptation	Failure Recovery	Continuous basic decisional autonomy	Position-Task selection	Vision data feedback	Communication of environment information	User detection	Multi-Parameter Perception	Object Element recognition - single instance	Sense driven action	Object-Element delineation	Function projection	Property-knowledge	Basic environment reasoning	Object-and-location-Element interaction	Local aspect explainability	
Autonomous Configuration	Adaptation triggered by collected data, trends on data, history		Graceful Degradation	Simple autonomy without environment model	Traded autonomy	Simple-haptic feedback	Team communication	Work space detection	Feature based perception	Object Element recognition - one of many	Optimized action	Object-Element category interpretation	Rigid-interaction-prediction	Deliberate acquisition	Reasoning under uncertainty with-conflicts	Robot-System triggered interaction	Global aspect explainability	
-	-		Task dependability	Simple autonomy with environment model	Task sequence control	Augmented-haptic-feedback	Team coordination	Dynamic User detection	Grouped feature detection	Parameterized object element recognition	Knowledge driven action	Structural interpretation	Flexible-object-interaction	Place knowledge	Dynamic reasoning	Social interaction	Collective explainability	
-	-		Mission dependability	Task autonomy	Supervised autonomy	Multiple-point-feedback	Capability Communication	Reactive-safety	Object-Element identification	Context based recognition	Plan driven action	Basic semantic interpretation	Basic environment envisioning	Knowledge scaffolding	Safety reasoning	Complex social interaction		
-	-		Predictive dependability	Constrained task autonomy	Task alternatives selection	Augmented-multiple-point-feedback	-	Dynamic-safety	Property identification	Object Element variable recognition	Dynamic planning	Property interpretation	Envisioning safety	Requested knowledge	Task reasoning	Intuitive Interaction		
-	-		Prescriptive dependability	Multiple task autonomy	Mission Goal setting	Tele-presence	-	Context-dependent-safety	Hidden state identification	Novelty recognition	Task action suggestions	Novelty interpretation	Envisioning user responses	Distributed knowledge	Task-hypothesis	-		
-	-		-	Dynamic autonomy	-	Augmented-tele-presence	-	-	-	Unknown object element categorisation (Rigid)	Mission proposals	Environmental affordance	-	Interaction acquisition	Mission reasoning	-		
-	-		-	Mission oriented autonomy	-	Multi-modal feedback	-	-	-	Object Element property detection	-	-	-	Object function	-	-		
-	-		-	Distributed autonomy	-	-	-	-	-	Flexible object-element detection	-	-	-	User knowledge	-	-		
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