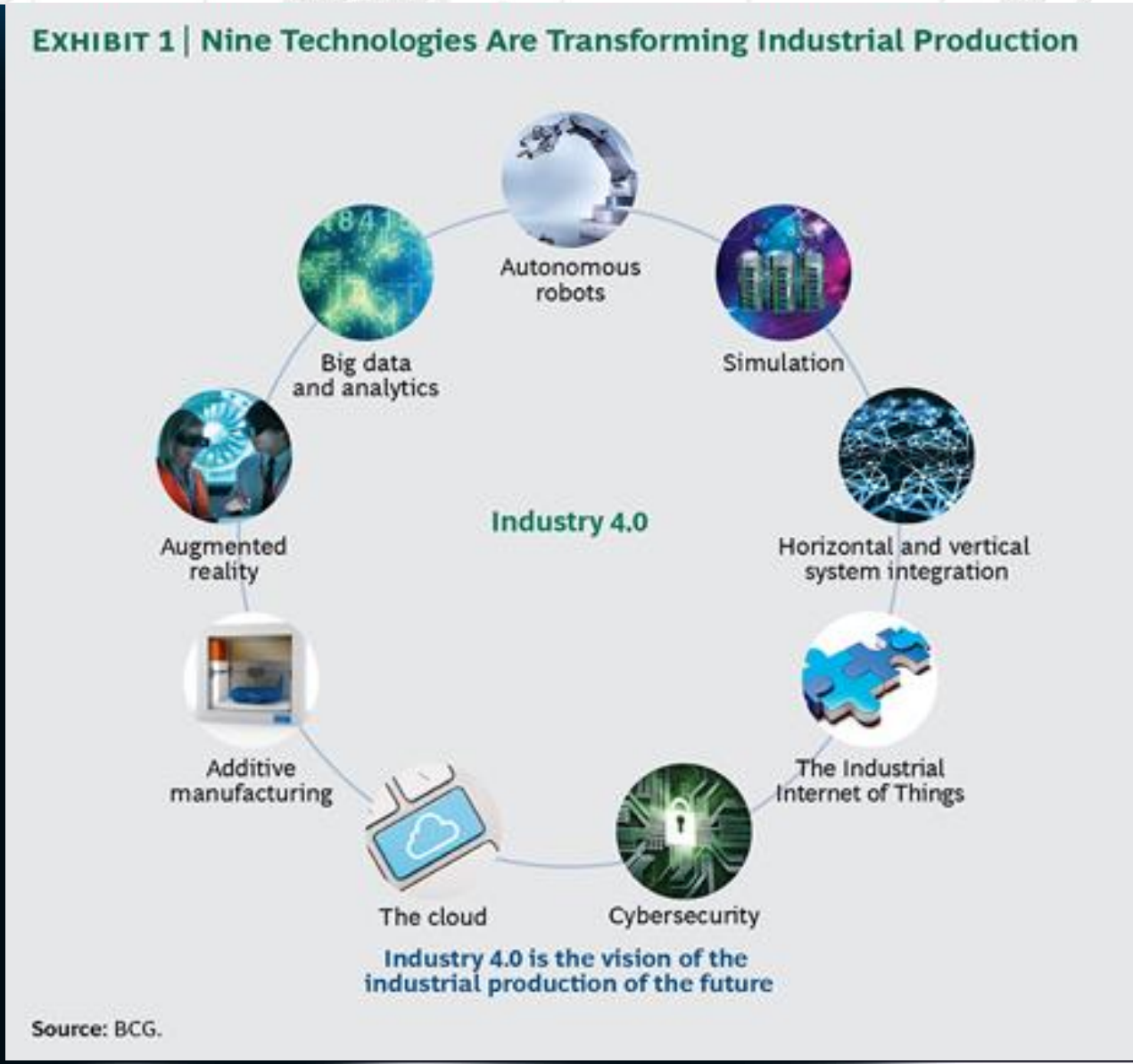
Quick Project Clustering Overview
I 4.0 Workshop

Intelligent Manufacturing Systems

Hot Areas for Global R&D

Nine technology trends that are the building blocks of Industry 4.0 and explores their potential technical and economic benefits for manufacturers and production equipment suppliers.



IMS Program Supports Transformation

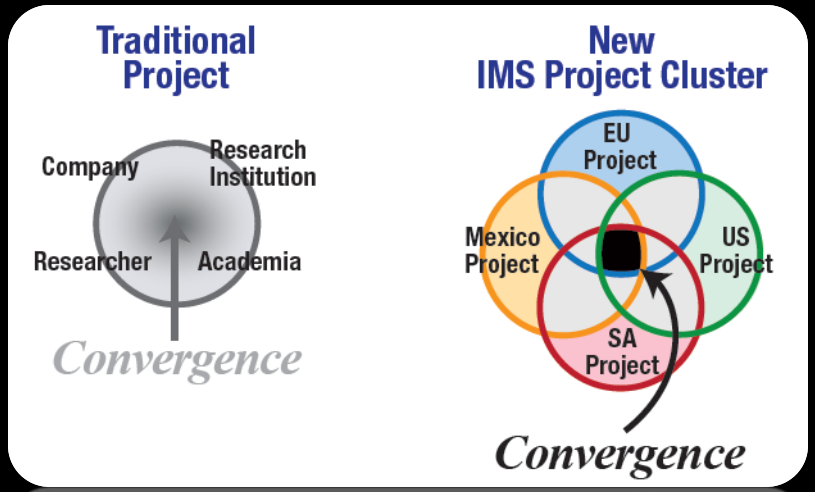
- Research: Project Clustering Platform

  Leverages R&D, reduce risks, provide global solutions

  - Facilitators
  - International project matching
  - Regional workshops
  - International workshops
  - Proven methodology for cluster formation

Project Clusters: What are they exactly?

- The Project Clustering Program seeks to bring like research interests together under specific topics to form local communities. These local communities are networked with like communities in other IMS regions, thus forming International Clusters around a specific theme and topic.
- Further, these clusters will be supported by IMS through a dedicated Facilitator or Champion who coordinates correspondence, activities, and collaboration.
- IMS will support local and international workshops, publishing of outcomes, and recognition for accomplishments.
- Communities may include individual researchers, research institutions and universities, industry R&D departments, and other networks.



Thematic Areas

- Project Clusters are formed under thematic areas.
- Formation of the clusters are based on surveys and interviews to academic and industrial international experts to find themes of common interest.
  - Additive Manufacturing
- Other clusters are currently forming under Industry 4.0 and other topics.

1st International Workshop

Expression of Interest - All Projects

SCORING: 1=LOW INTEREST, 2=MODERATE INTEREST; 3=HIGH INTEREST (BLANK SPACES=NO INTEREST)

Project ID	Exploitable Result	Abbreviated Name	M1-US-QUESTEK	M2-US-EXOVA	M3-US-NIU	M4-SA-DEDREF	M5-SA-FORMING	M6-SA-MEDAERO	M7-MX-FRISA	M8-MX-SISAMEX	M9-EU-AMAZ	M10-EU-REPOMag	M11-EU-RepAIR	M12-EU-BOREALIS	M13-EU-AATID	M14-EU-NANOTUNED	M15-EU-OXIGEN	M16-MX-METAL-SA	PB1-SA-FDMFINISH	PB2-SA-POLYAM	PB3-EU-RAPIDOS	PB4-EU-ToMAX	PB5-EU-BIOSCAFFOLDS	PB6-EU-HYDROZONES	PB7-EU-IBUS	PB8-MX-UNAM-MADIT	GT1-US-LOCKHEED	GT2-SA-EDUCATE	GT3-SA-NDTLBM	GT4-SA-DESIGN	GT5-SA-SAND	GT6-SA-HYGIENE	GT7-MX-CIATEQ	GT8-MX-UASLP	GT9-MX-VITRO	GT10-EU-CAXMAN	GT11-EU-FOFAM	GT12-EU-MANSYS	GT13-EU-CASSAMOBILE	GT14-MX-UANL	GT15-EU-NEXTFACTORY	Strength of Interest (ER)	Strength of Interest (project)
M1-US-QUESTEK																																										
	ER1	Al powder	Yes	3	3	2	1		3		3	3	1	3	2	3	3								2										1							33	109
	ER2	Ti 6-4 Mod alloy	Yes	3	3	2	1	3	3		2	3	2	3	3	3	3								2							3			1							40	
	ER3	New Co, Ni or other alloy	Yes	3	3	3	1	1	3		1	3	1	3	2	3	3								2							3			1							36	
M2-US-EXOVA																																										
	ER1	Design allowable database	3	Yes	3	1	3	3	2		2	1	3	1	3	2	2			1					1		2					1			1							32	141
	ER2	Standard test & qualification protocols	3	Yes	3	1	3	3	2		3	3	3	2	3	3	3	1		1					3		3								1							41	
	ER3	Surface finish for net shape parts	2	Yes	3	2	3	3	2	2	2	3	2	2	3	3	2			1					2							3			1							39	
	ER4	Use of irregular shape powders	1	Yes	3	1	1	2	2		2	1	3	2	2	2	3			1					3										1							29	
M3-US-NIU																																										
	ER1	Calorimeter to monitor heat input	1		Yes	2		3	2		2	1	2	3	2	3	1								1		2						2	2							28	53
	ER2	Acoustic monitoring of powder flow		1	Yes	2		3	2		3	1	2	2	2	2	1								1		2							1							25	
M4-SA-DEDREF																																										
	ER1	DED procedures for repair		1	3	Yes	2				3	2	3	3	2	3	2			1					3		3								1							32	66
	ER2	Image processing	2	1	3	Yes	2				1	2	3	3	2	2	2			1					2		3								1							28	
	ER3	Minimising residual stresses in DMD				Yes	3													1							2															6	
M5-SA-FORMING																																										
	ER1	Hot sheet forming tool		2	2		Yes				1	1			2	1	2	3							1		1								1							17	55
	ER2	Reconfigurable tool		1	3		Yes				1	1		1	2	3	2	2							1		1								1							19	
	ER3	Improved scanning			3		Yes				2	1	1	1	2	3	2								2		1								1							19	

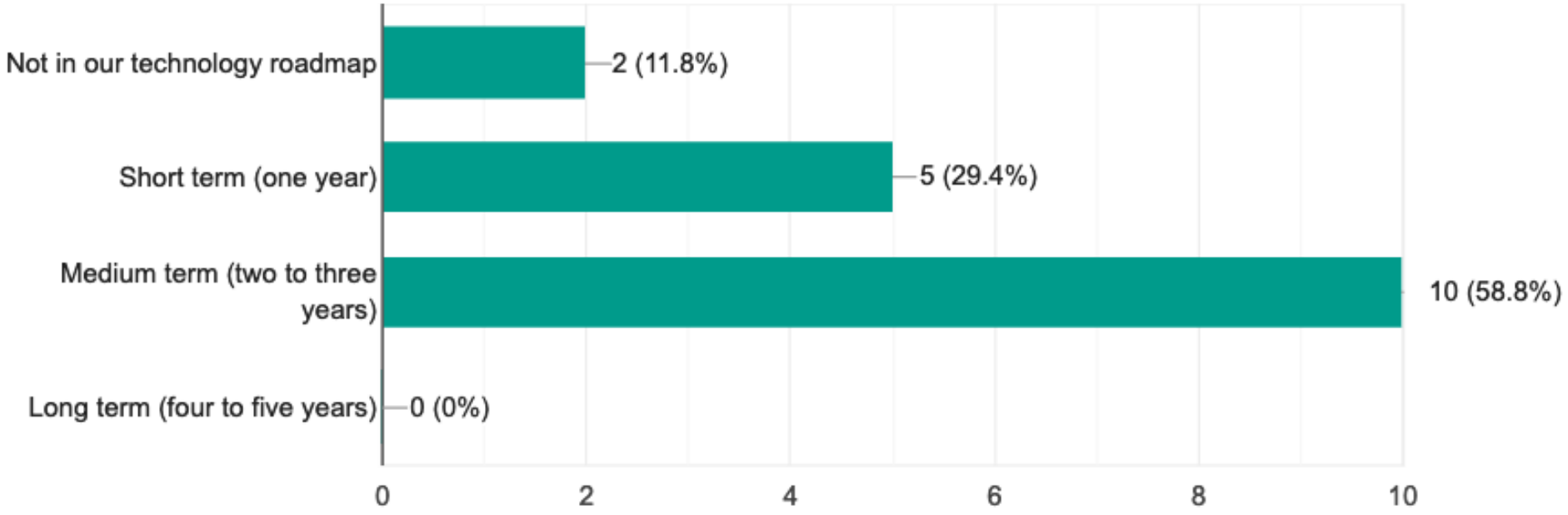
All Projects | Metals | Polymer-Bio | Generic | Master Listing

Today's Workshop Objective

- To identify topics and actions of joint interest so that progress can be made collaboratively at lower cost and with less risk.

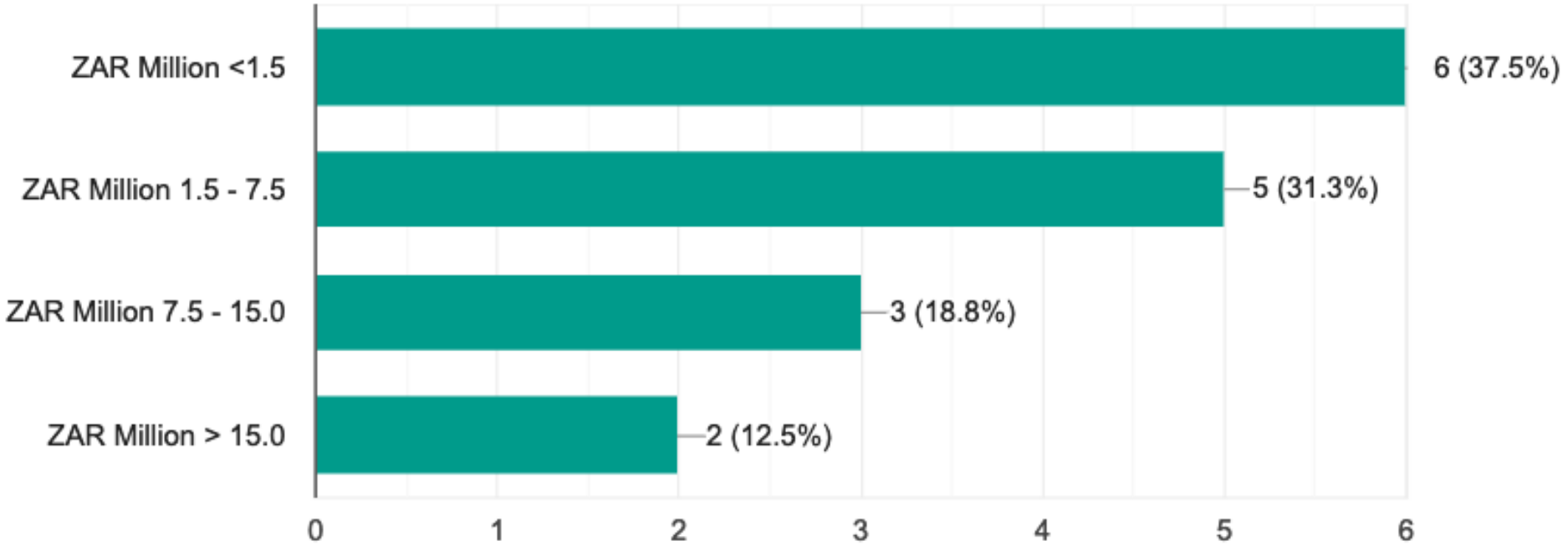
When?

Over what time horizon will your company increase its R&D investment in Industry 4.0 technologies?



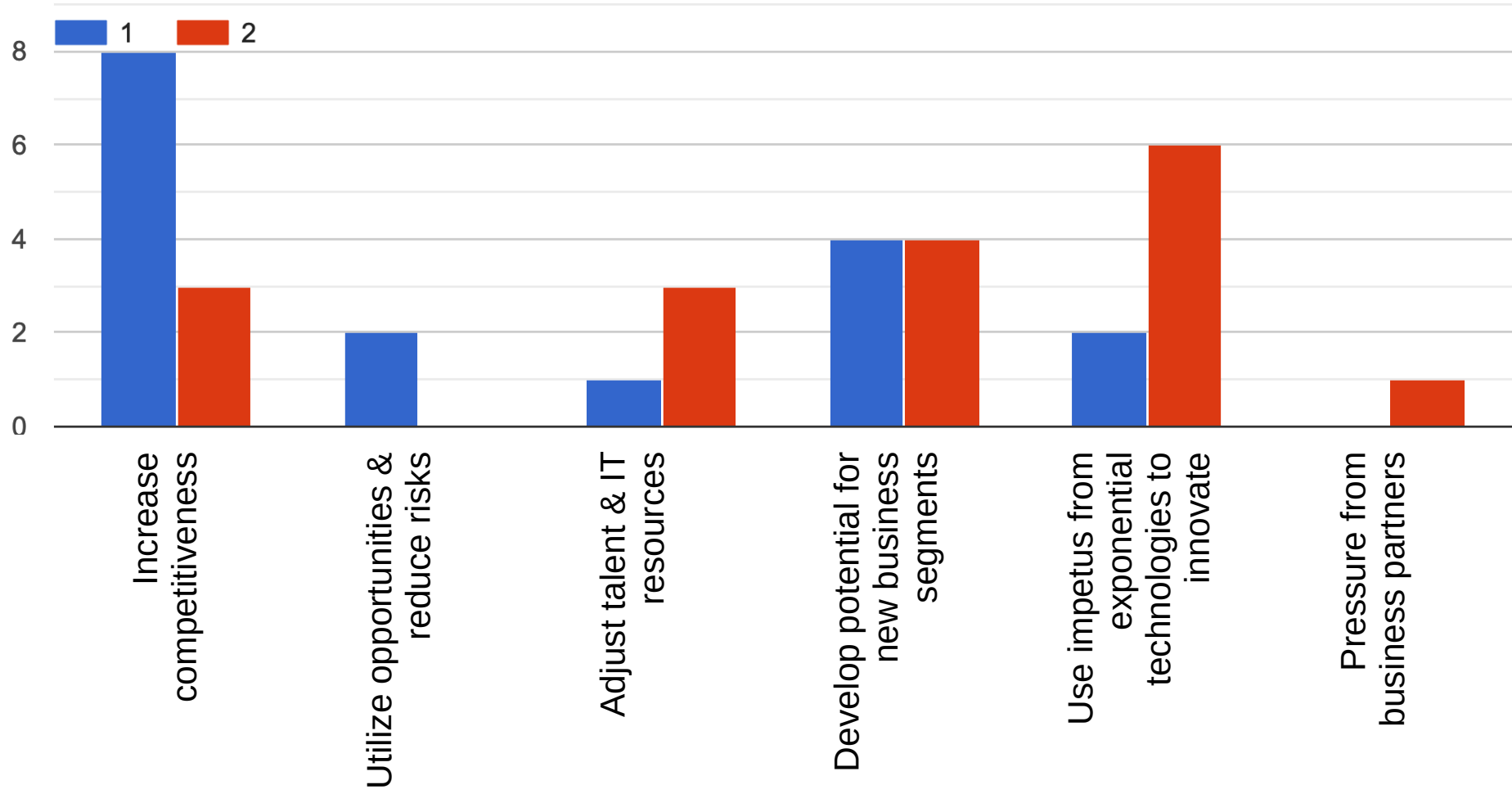
How Much?

How much annual budget will you allocate for R&D investment in Industry 4.0 technologies?



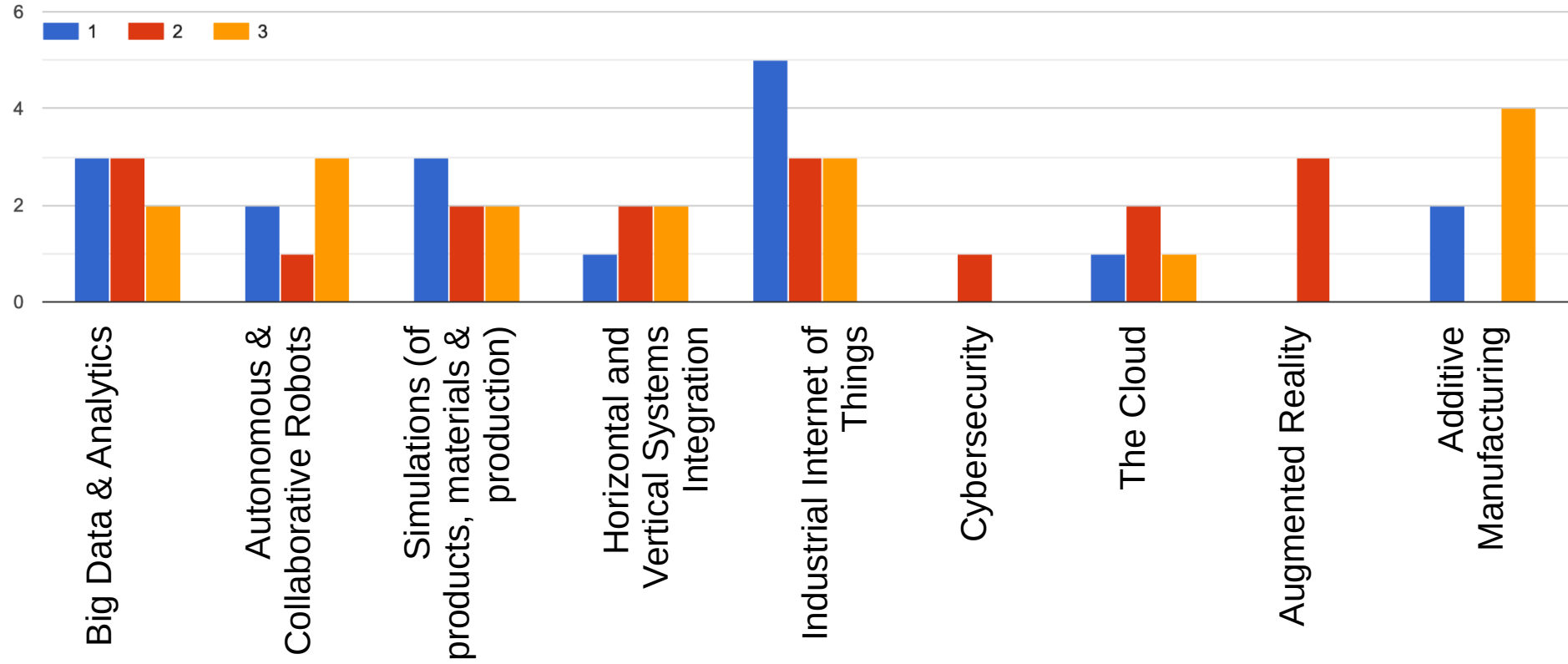
Why?

Rank the top two drivers for your company to adopt Industry 4.0 technologies:



What?

Rank the top three Industry 4.0 technologies for your company in order: (1=highest).



Breakouts

- Industrial Internet of Things
- Simulation

- (Skills Development & Workforce Retention?)