Artificial Intelligence vs Human Factor

Panel discussion

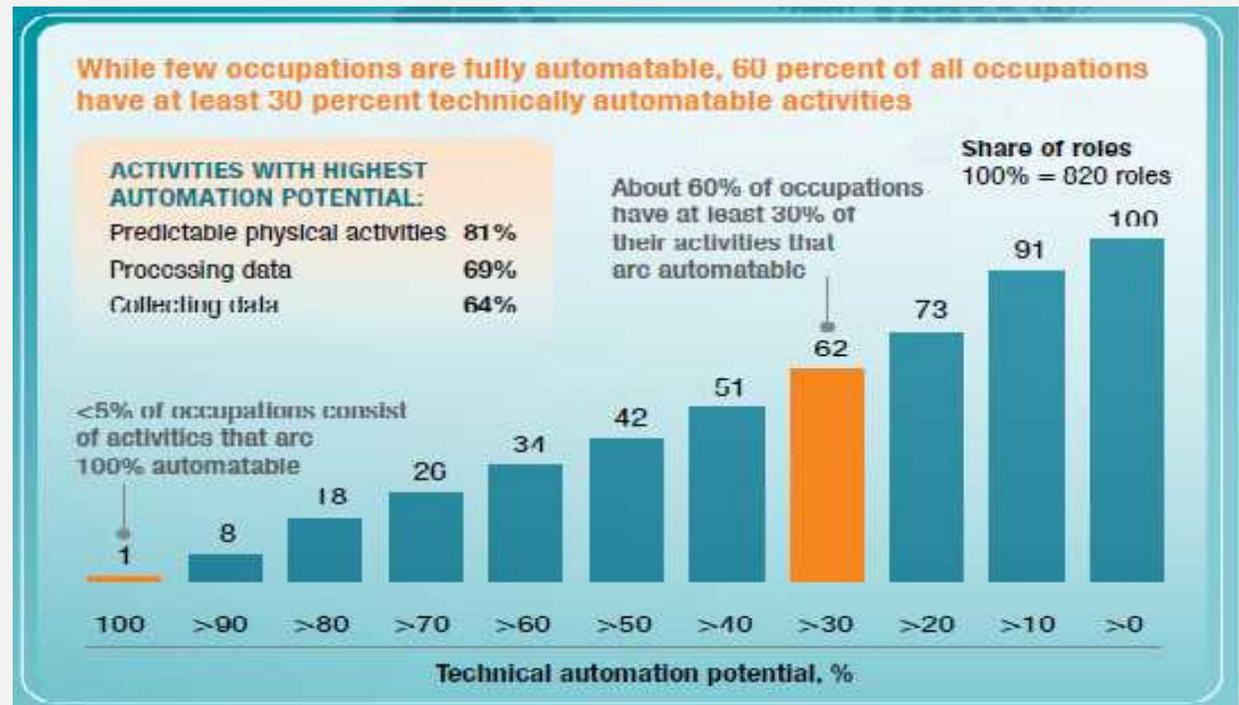6th November 2018

3 objectives for today

1 Present advantages of AI, underlying technologies, solutions and expert systems

2 Analyze current and potential AI applications

3 Discuss how human factors can be effectively used to embrace AI

Why to embrace AI and related technologies?

28% Anticipated cost savings

22% Anticipated new revenue stream

18% Anticipated increased agility

AI Motivators

18% Anticipated ability to reach new customers

9/10 Organizations encourage digital transformation
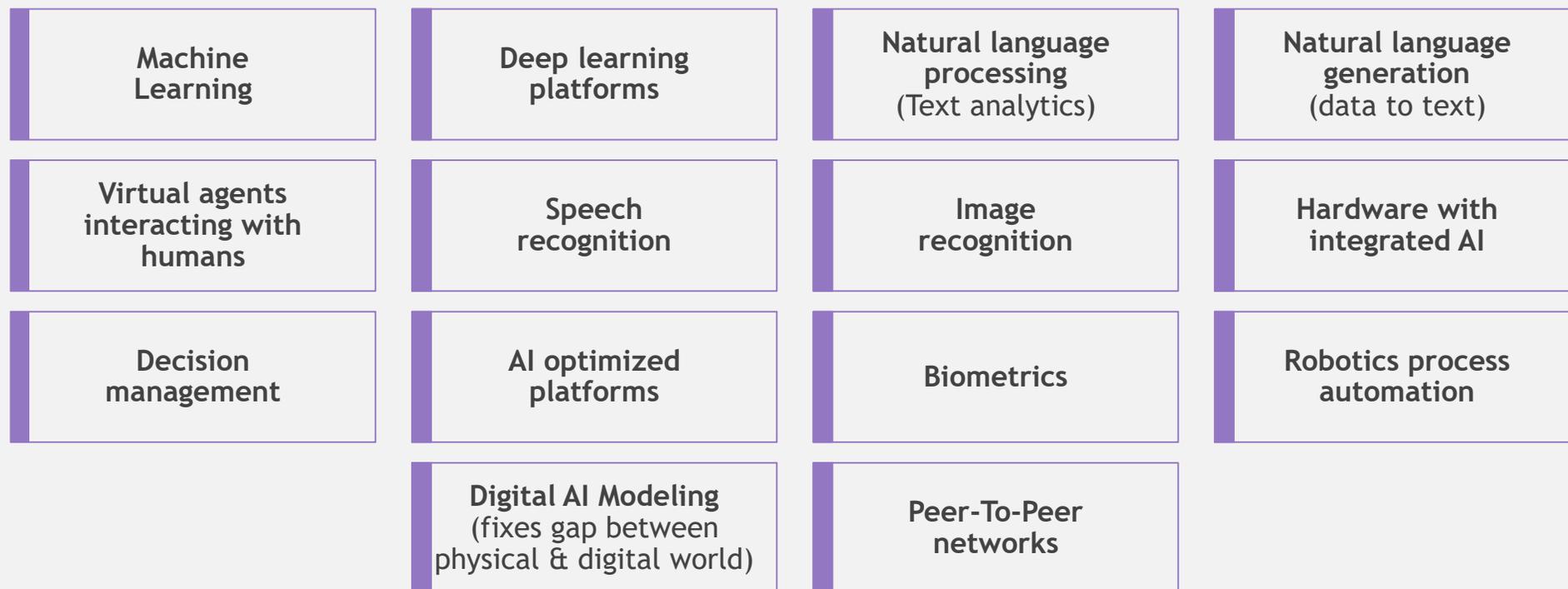
82% Leaders receptive to adopting Emerging Technologies
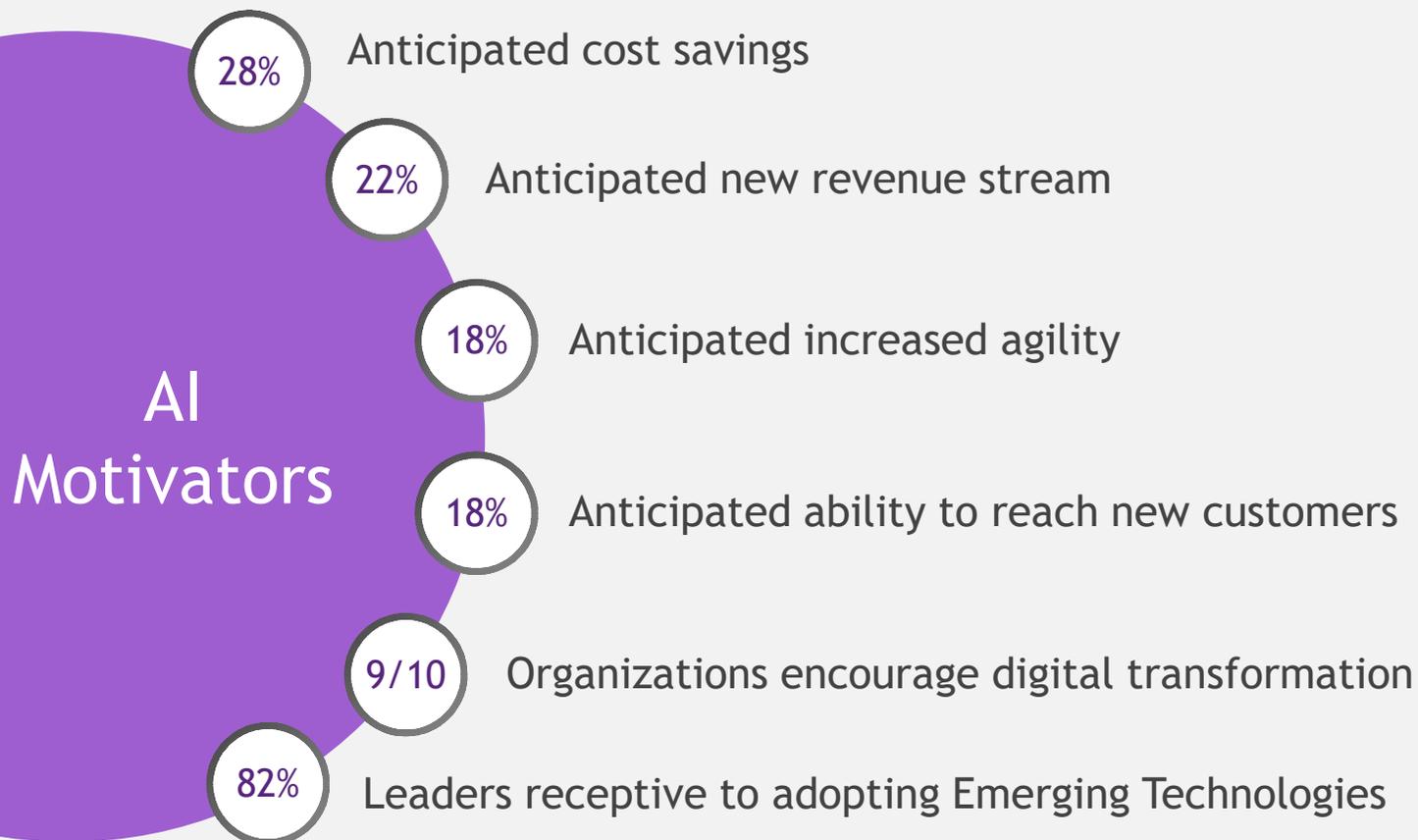
Source: www.isaca.org/digital-transformation-barometer

60% of jobs have at least 30 percent automatable activities

While few occupations are fully automatable, 60 percent of all occupations have at least 30 percent technically automatable activities

ACTIVITIES WITH HIGHEST AUTOMATION POTENTIAL:

Predictable physical activities	81%
Processing data	69%
Collecting data	64%

About 60% of occupations have at least 30% of their activities that are automatable

Share of roles
100% = 820 roles

<5% of occupations consist of activities that are 100% automatable

100	>90	>80	>70	>60	>50	>40	>30	>20	>10	>0
1	8	18	26	34	42	51	62	73	91	100

Technical automation potential, %

Source: https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works

Common underlying AI Technologies are evolving rapidly...

Machine Learning	**Deep learning platforms**	**Natural language processing** (Text analytics)	**Natural language generation** (data to text)
Virtual agents interacting with humans	**Speech recognition**	**Image recognition**	**Hardware with integrated AI**
Decision management	**AI optimized platforms**	**Biometrics**	**Robotics process automation**
	Digital AI Modeling (fixes gap between physical & digital world)	**Peer-To-Peer networks**	

...finding fast-growing applications in key industries

Healthcare Life Sciences

Drug interaction

Cancer detection

Illness prediction

Drug discovery

Gene mutation

Sanitation

Financial Services

Fraud prevention

Risk management

Investment predictions

Customer service

Digital assistants

Network security

Government Security

Facial recognition

Video surveillance

Cyber security

Satellite imagery

Event prediction

Emergency services

81% of Fortune 500 CEOs believe AI is important for business
$46 billion Global spending by 2020 on cognitive and AI solutions

Source: ISACA Knowledge Center Research – Innovation Insights; Ref: https://www.idc.com/getdoc.jsp?containerId=prUS42439617

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AI overpowers human capabilities with increased and scalable productivity...

AI provides route optimization to courier companies

10-20% increase in production - Rio Tinto has deployed automated haul trucks and drilling machines at its mines in Pilbara, Australia

40% energy savings - Google has applied AI from its DeepMind machine learning to its own data centers, cutting the amount of energy used

80% increase in transaction throughput - In financial services, transaction workflows are digitized end-to-end, increasing scalability

AI has high potential to increase road safety, since about 94% of annual car accidents are the result of human error

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AI will have an impact on the job market

BLUE COLLAR IMPACT

The talk about AI and job displacement

4.6 M
Retail salespeople

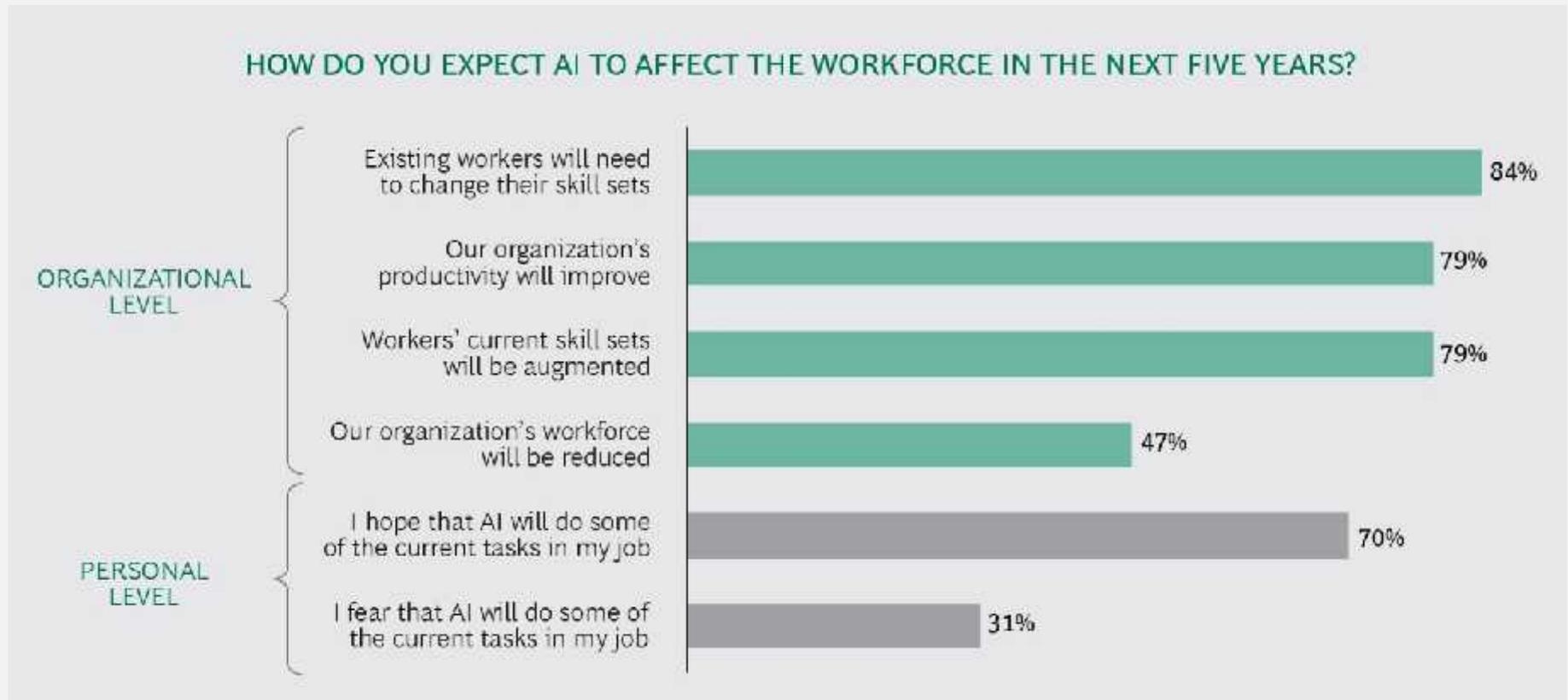| 4.3 million | Cooks and servers |
3.8 million	Cleaners
2.4 million	Movers and warehouse workers
1.8 million	Truck drivers
1.2 million	Construction laborers

*number of jobs at risk

@cbinsights   @cbinsights   Source: CB Insights "State of Automation" Report

Source: CB insights "State of Automation" Report

Common underlying AI Technologies are evolving rapidly...

HOW DO YOU EXPECT AI TO AFFECT THE WORKFORCE IN THE NEXT FIVE YEARS?

ORGANIZATIONAL LEVEL
- Existing workers will need to change their skill sets — 84%
- Our organization's productivity will improve — 79%
- Workers' current skill sets will be augmented — 79%
- Our organization's workforce will be reduced — 47%

PERSONAL LEVEL
- I hope that AI will do some of the current tasks in my job — 70%
- I fear that AI will do some of the current tasks in my job — 31%

Source: Joint BCG-MIT Sloan Management Review survey on the impact of artificial intelligence on business, 2017
Note: Percentage of respondents who somewhat agree or strongly agree with each statement

A recent PWC survey shows that employees have a positive attitude towards AI

78%

Employees would like to work with AI manager if this means more balanced workload

65%

Employees think it would free them from menial tasks

64%

Employees think it would offer them new work opportunities

Source: PWC 2018 AI Predictions

An effective combination of AI and human skills will create best business solutions

Collection of massive dispersed digital data

Organization of massive dispersed data to unlock valuable insights

AI is already a key driver of digital transformation across a wide range of sectors

Digitization will be driven by our ability to adopt AI

AI enables shifting business strategy to a customer-centric model

Individuals can learn and practice AI programing skills

Thank you