A Robot
Or An Employee?

We Must Offer Integrated Solutions at Human & Robot Resources

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THINK AHEAD…

TO AVOID A LARGE NEGATIVE SURPRISE

Few firms facilitate taking time off to think about the future

4 goals for today's presentation

1. The primary goal for today is to **STIMULATE YOUR THINKING**

2. And **TO HAVE A LIVELY DISCUSSION** about an upcoming game changing shift

3. To make you **AWARE OF THE SCOPE** of this looming **"tech takes over human work" problem**

4. To illustrate the **PEOPLE PROBLEMS** that will occur as a result of technology taking over jobs

Let's all start from the same perspective

What are the <u>top global business challenges</u> according to CEO's in 2016?

- Operational Excellence

- Customer Relationships

- Regulation and Risk

- Corporate Brand and Reputation

- Innovation and Digitalization

- Human Capital

- Sustainability

Source: The Conference Board survey of CEO's 2016

We are #1

The #1 global <u>bus challenge</u> facing CEO's is…

➡ 1. **Human Capital** … **for the fourth year in a row**

    2. Customer Relationships (tied)

    2. Corporate Brand and Reputation (tied)

    4. Operational Excellence

    5. **Innovation** and **Digitalization**

4 of the 5 top challenges require outstanding employees

    6. Regulation and Risk

    7. Sustainability

Would you agree it's time for *bold* changes… because we are still the top challenge after 4 years?

Source: The Conference Board survey of CEO's 2016

5

Which <u>firms</u> do CEO's want to emulate?

What 2 things do these top firms <u>have in common</u>?

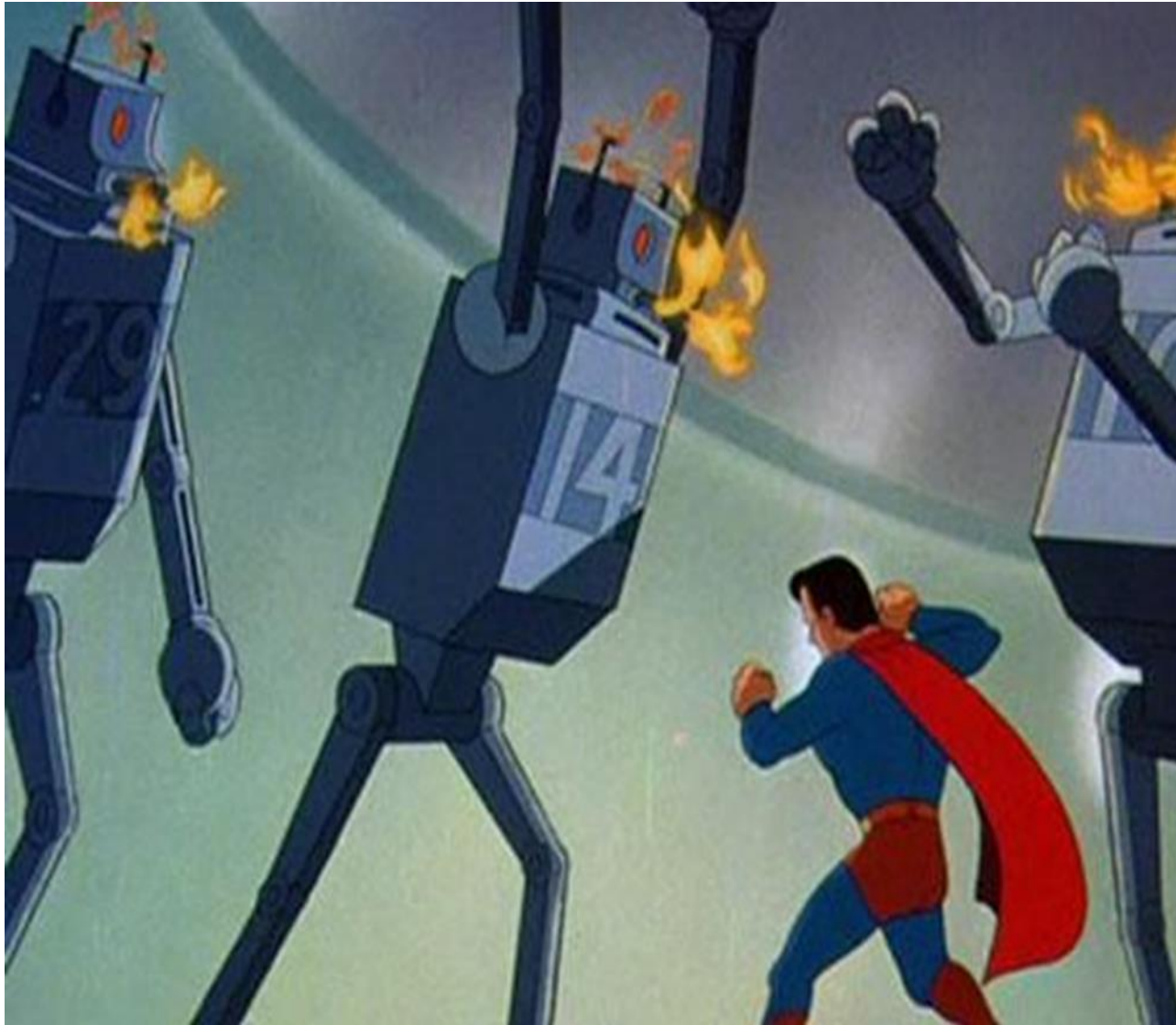|	
Amazon	#5
Facebook	#4
Microsoft	#3
Google	#2
Apple	#1

1. Their ranking **in market cap value (US)**
2. They are all **serial innovation firms**

Lesson learned – Innovation is the #1 driver of corporate value

What percent of our current jobs will robots do?

Computers, intelligent machines, and robots seem like the workforce of the future.
And as more and more jobs are replaced by technology, people will have less work to do and ultimately will be sustained by payments from the government - Elon Musk

"We are approaching a time when machines will be able to outperform humans at almost any task"

Moshe Vardi, Rice U

How many med. papers are published a day? 8000

IBM's Watson "**sifted through 20 million cancer research papers**, and came up with the proper diagnosis within 10 minutes, **suggesting a new treatment that has since been more effective**"

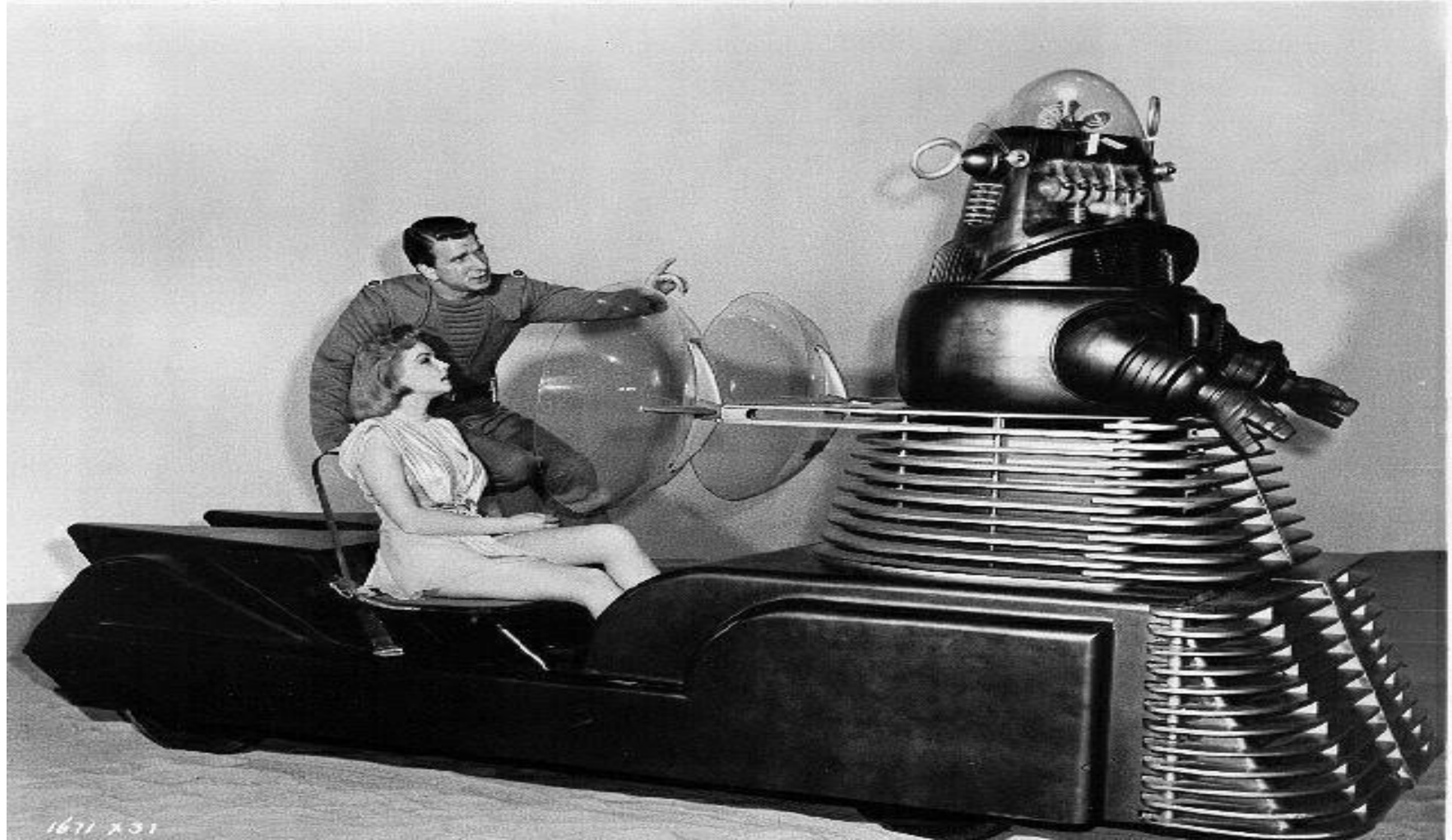(Watson found something that humans missed **30%** of the time)

Next let's understand that…

New technologies have <u>amazing capabilities</u>…
and they will take over work in every industry

Drivers are becoming obsolete

Bud makes shipment with self-driving truck

Anheuser-Busch hauled a trailer loaded with beer 120 miles in an autonomous-drive truck, completing what's believed to be the first commercial shipment by a self-driving vehicle.

Operating in Pittsburg

New choices for a chef…
a person or a robot?

56 ovens

Slurpee to Reno

Domino's Robot Unit in NZ

Cashiers are becoming obsolete at McD's and Home Depot

Robots assume <u>warehouse jobs</u> at Amazon

Robots cut the costs of fruit picking in <u>agriculture</u>

Tech can do <u>dangerous work</u>

Even recruiting is using technology

Tech can do <u>precision surgical work</u>

Software

- ➢ **Phone apps** (the internet is shrinking)
- ➢ **Decision algorithms** using AI & machine learning
- ➢ **Predictive analytics**
- ➢ **Chatbots** and **IVR**?
- ➢ **Virtual reality** & **vid**eo instruction
- ➢ Online **self-service apps**

Hardware

- ➢ **Driverless vehicles**
- ➢ Physical **robots**
- ➢ Delivery **drones**
- ➢ **Computer hardware** / software (Watson)
- ➢ **Employee tracking** and GPS location devices

Why now? (Why the sudden march of robots?)

Some possible contributing factors include:

➢ **Smartphone apps** have made people comfortable with work done by machines (GPS)

➢ The Defense Advanced Research Projects Agency (**DARPA**)

➢ **Relentless and adventurous firms** like Google and IBM

➢ Tech firms pushing the "**fail harder" innovation mantra**

➢ **Surplus $** from successful tech firms

HR is often <u>already at a disadvantage</u>

(When compared to tech or IT)
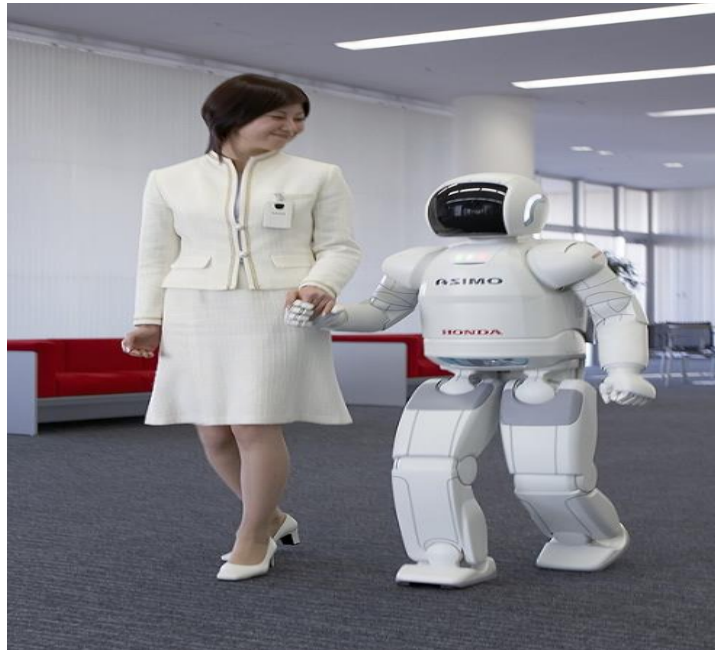
HR may be <u>excluded</u> from "tech vs. employee work decisions"

1. **HR is often not invited -** to discussions on purchasing worker replacing technologies
2. **Little impact** - because of its new capabilities, tech is often implemented **even when HR fights it**
3. **ROI** - tech departments already **calculate the ROI of their installations**, HR does not
4. **Metrics** - robot installations always have **metrics quantifying their performance,** employees don't
5. **Know both** - tech managers argue that they **know both people and tech,** HR isn't tech savvy
6. **Data on advantages** - tech has data **demonstrating the advantages of tech**, HR has no data on when employees perform better >

Does HR have data… proving that… humans are better at something vs. tech?

1. Innovation – humans come up with mostly tech innovations
2. Building relationships
3. Empathy
4. ~~Sales?~~
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

What's wrong with people / employees?

Be objective in recognizing the limitations of people

➤ They can't work **24/7/365** and **in bad weather**

➤ They require a **manager / supervisor**

➤ They want **pay, overtime and benefits**

➤ They get **sick,** and they are **late and absent**

➤ They arrive at work **high, sleepy or drunk**

➤ They get **tired, hurt** and they **need breaks**

➤ They **steal and** can reveal **company secrets**

➤ They **create interpersonal and robot conflicts**

➤ They have a **high error rate**, compared to machines

➤ They expect **retirement pay** till they die

➤ Their **skills go obsolete** & upgrading is difficult

Employee retraining may not be feasible

Up-skilling employees will be problematic because…

➢ **The tech skills will be so different** – many employees simply won't be able to raise their skills

➢ **Time is critical** – technologies change so rapidly, there may simply be **no time to wait for retraining**

➢ **Employee interest** – the **burden of retraining** may cause many employees to lose interest

➢ **Will training work?** – the training will be expensive and there is **no guarantee that it will work**

➢ **Firms won't have the training capabilities** – and by the time the training program is developed, the new technology may already be becoming obsolete

And if re-training isn't viable…
HR can just <u>hire the best</u> from the free market

What % of <u>all new-hires</u> fail within 18 months?
"46%" (Source: Leadership IQ)

What % of all <u>hourly employees</u> quit or are fired within their first 6 months
"50%" (Source: Humetrics)

What % of <u>management new-hires</u> fail within 18 mths.
"Between 40 and 60%" (Source: Harvard Business Review)

What % of <u>executive new-hires</u> fail within 18 mths"
"Nearly 50%" (Source: The Corporate Leadership Council)

<u>Advantages</u> of tech over employees

- ➤ Machines have higher level **capabilities** (Watson)
- ➤ It can find **relationships** in areas that seem unrelated
- ➤ It can do **precision work** with **few errors**
- ➤ It can do **high level mental calculations** better
- ➤ It can do physical **work with more strength**
- ➤ It can do **dangerous work** in **any weather**
- ➤ It can do **high volume of tedious work**…at **low cost**
- ➤ It can do **continuous repetitive work** without tiring
- ➤ It can do work **faster and in less time**
- ➤ Phone app access is **24/7, so it will dominate**
- ➤ Higher **min. wages** make hourly workers expensive
- ➤ **Work replacement vendors** are everywhere ＞

Robot demand is increasing – Why?

Global service robotics market by application (USD Billion)

2012 to 2020

Source: Grand View Research

Years: 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020

Legend: ■Professional ■Personal
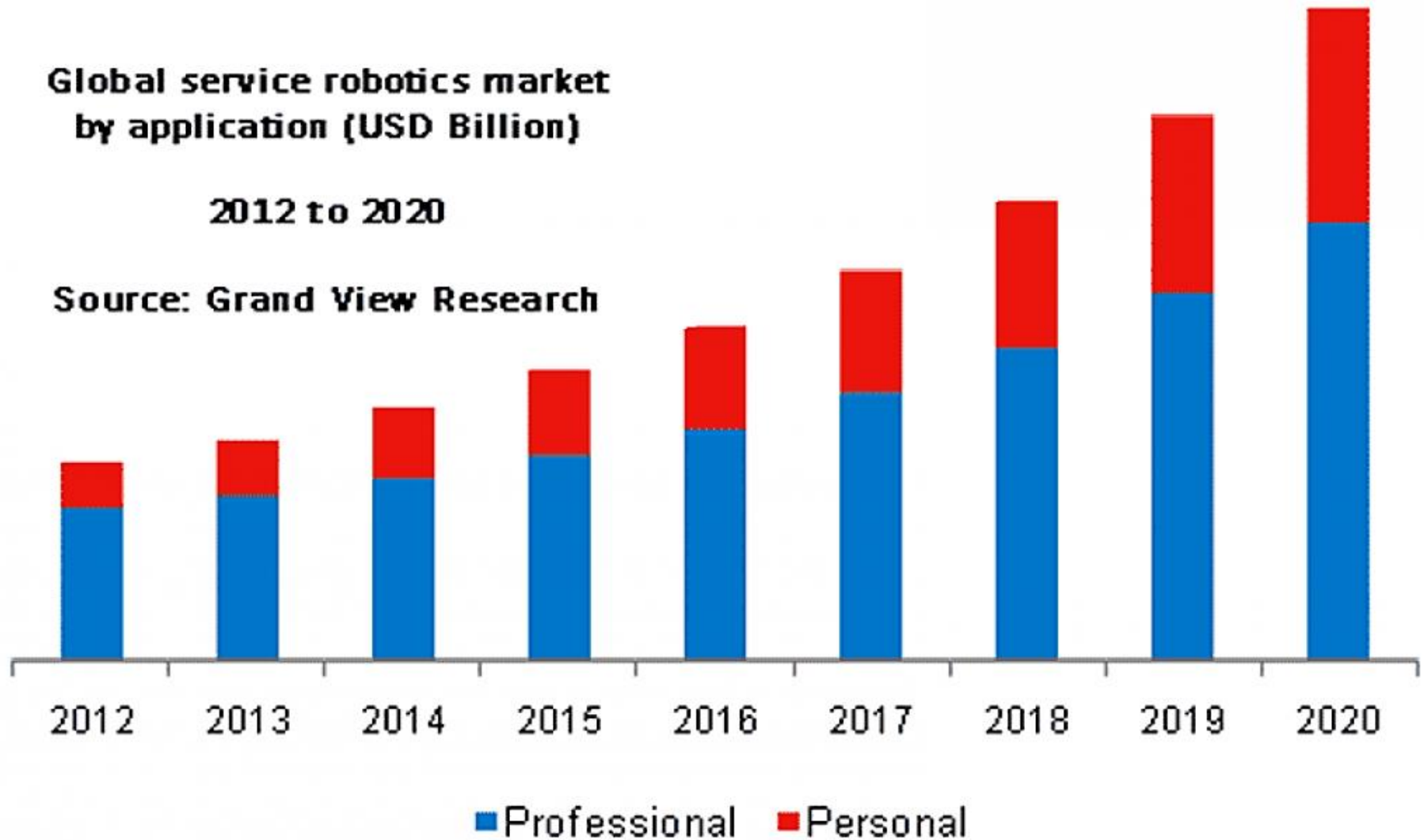
We will only be able to add value if…

HR is aware of <u>the people problems</u>

that will be created by robots

Are you ready for these people problems

- **Executives will expect a smooth transition** – so HR must have a great plan w/ metrics
- **Employee stress levels** – stress will increase as employees and managers fear **the uncertainty**
- **Resistance, stalling & sabotage** - asking employees to implement tech that will take their jobs **may cause stalling & sabotage**
- **Location tracking** – will make workers suspicious
- **Violence** – is possible between impacted and non-impacted employee groups & with installers & managers
- **Unions** – existing ones **will resist** or some new ones **will be formed** to fight tech replacements
- **Managing layoffs** – layoffs will be continuous, expensive and difficult with new legal protections

Be prepared to handle a multitude of people problems

- **Support staff will be cut** – fewer employees, mean a **cut in the # of support staff**
- **Who will be the future managers?** – when there will be few employees in **the promotion pool**
- **Retention** – the retention **of soon to be replaced employees** will be difficult, so **employment contracts** or **"stay bonuses"** may be needed
- **Surplus physical space** - there will be an excess of real estate after tech implementation (**ghost town**)
- **The continuing march** – the continuous shift will **scare away** many current employees and new-hires
- **Bad PR from the conversion** – if it happens, it will mean lost customers and applicants

- ➢ **Innovation may lose out to efficiency** - if HR isn't a powerful advocate of innovation
- ➢ **Interdepartmental integration is required** – coordination between HRR and the CTO, CIO and COO's office is essential
- ➢ **Bias** – HR has a **long-held bias towards humans…** so we must prove our **objectivity**
- ➢ **Rewards - for accepting new tech** may be needed
- ➢ **Gig workers** - high-quality **gig workers** will have to be hired and managed effectively (seamlessly)

The <u>remaining employees</u> must be special

➢ **Hi-performers** - those remaining employees **must have higher-level skills** and **performance** and HR must be able to attract and retain them

➢ **The remaining managers -** will have to be able to **manage both technology and people**

➢ **Innovation** - and **innovators will have the highest value** but it is difficult **within a 6 Sigma world**

➢ **Technology employees -** will be critical but they will be **hard to recruit and retain**

Humans Need Not Apply

Who will be affected the most by technology taking over most work?

"Robots will take over approximately 50% of the jobs in the U.S. economy over the course of just a decade or two" - *Marshall Brain*

Industries that will likely be impacted

What industries are facing the highest job loss?

➢ **Transportation**

➢ **Manufacturing**

➢ **Warehousing** and storage

➢ Quick service **restaurants**

➢ Consumer **retail** online and at stores

➢ **Outsource** vendors

➢ Firms that **make and service** this technology

➢ Package **delivery**

➢ **Banks** (fintech)

➢ Hospitals and **healthcare**

Which corporate jobs will likely be eliminated?

➢ **Drivers** and delivery people

➢ **Inventory** jobs

➢ **Call center** jobs

➢ **Manufacturing** jobs

➢ Cashiers

➢ Librarians

➢ Administrative & **research clerks**

➢ Recruiting **sourcers**

➢ **Trainers** and teachers

➢ **Managers** that supervise and make decisions

**Estimate the
% of your firm's jobs
that will be at risk**

41

Expect these 9 **major shifts within HR** in response to tech

1. A shift to **data-driven** people decisions
2. **Managers will do most HR** work on their phone
3. HR will shift to an internal **consulting firm model**
4. Updated **algorithms will reveal what is working**
5. **Chatbots** will answer 90% of HR questions
6. Remote work and gig work will require that **the output of all jobs** be quantified in #'s and $
7. All metrics will be **predictive**
8. **HRIS** will merge with IT
9. **Learning**/growth mindset will become the #1 worker competency

HR may shrink by 75%

➢ Benefits

➢ Recruiting

➢ Learning and development

➢ Analytics

➢ HRIS/HRMS

➢ Compensation

➢ Performance management

➢ Retention (predicting flight risk)

➢ Onboarding

➢ Generalists (manager self-service)

The tech / human selection criteria

must be accurate

Robot vs. Human selection criteria

1. Proof of **performance** improvement or differential
2. Customer / user **resistance** and satisfaction
3. Is the **work strenuous or dangerous?**
4. **Reliability, capabilities** and error rate
5. **Global** capability
6. **Time** to implementation & **probability of failure**
7. Costs and **ROI**
8. **Vendor reliability** & service (vendor selection checklist)
9. The availability of **upgrades**
10. Is decision-making/**adaptability** under crisis needed?
11. Is company specific **innovation required**

"We apply **the same level of rigor, analysis and experimentation on people** as we do the tech side"

➢ In the case of promotions…(Google with a promotional success prediction rate of 90%) final decisions are left to people (the hiring committee)

$$\text{Odds} = e^{-22.216 + (5.227 \times AvrgPerf) + (2.732 \times MgrRecommded) + (.971 \times SelfRecommended)*}$$

$$\text{Probability (\%)} = \frac{\text{Odds}}{1 + \text{Odds}}$$

Google™

HR action steps

Begin making the transition now

➢ Put together a **human / robot team**
➢ Make a **business case** for funding
➢ **Benchmark** what other companies are doing
➢ Begin shifting to a **data-driven HR**
➢ **Meet with** the heads of IT and technology
➢ Ensure that a % of new HR hires are **tech savvy**
➢ **Form a partnership** between the departments that are likely to be considering new technology
➢ Jointly develop a set of "**selection criteria**", integrated processes and performance metrics
➢ Develop a checklist for **assessing tech vendors**
➢ **Measure results** and improve your criteria
➢ Develop an effective **gig hiring** process

Firms to learn from

- **Amazon**
- **U.S. Army**
- IBM (Watson)
- Uber
- Domino's
- Tesla
- Google
- Mc Donald's
- Home Depot

Did I make you think?

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