

Bain Innovation Exchange

ABIT – Bain Tech Trends

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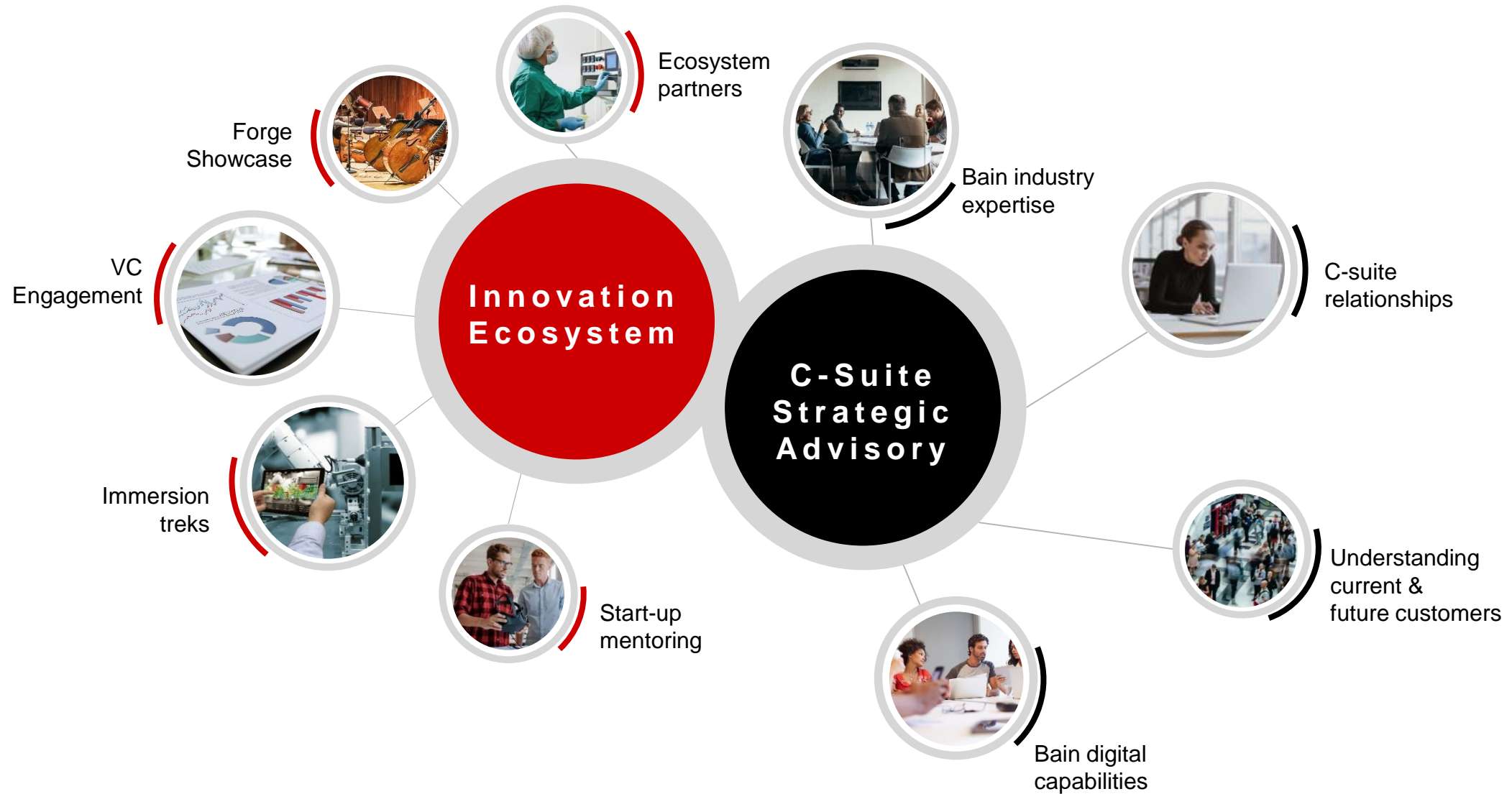
Welcome to Bain Tech trends 2021!



Truc Mai Dupont
Vice President,
Digital Partnerships &
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- ❖ Lead of Digital Partnerships & Bain Innovation Exchange, EMEA
- ❖ Lead of Bain start-up mentoring programme
- ❖ Frequently published & quoted on tech-related topics
- ❖ Former serial entrepreneur, founded & ran two start-ups, one of which was in e-commerce
- ❖ Masters in Management, HEC Paris & Marketing, UC Berkley
- ❖ Master's Degree in Fashion & Luxury Management at the Institut Français de la Mode

Bain has 2 pillars underpinning our tech trends selection: our experience driving the C-Suite strategic agenda across industries & our innovation ecosystem



10 tech trends which are significantly impacting the C-suite agenda in 2021



TOP
10
TECH
TRENDS

- 1 Edge AI
- 2 5G factory
- 3 Tailored insurance
- 4 AI for all
- 5 Cybersecurity
- 6 Staffing optimization
- 7 Health data
- 8 Next-gen HR
- 9 Circular economy
- 10 Zero waste





Edge AI transplants brain to factory tools and machines

- “Edge AI” is a network infrastructure that makes it possible for AI algorithms to run closer to or **even on the devices collecting data**
- The shift to working from home that came with Covid-19 lockdowns and dramatic changes in network traffic have accelerated the move toward edge computing
- **Key benefits** of edge computing include:
 - Preserving bandwidth and increasing efficiency by processing information closer to the users and devices that require it
 - Reduced latency issues and accelerated generation of insights as well as lowered cloud services usage and cost by embedding AI locally
 - Connectivity cost also drops, as processing part of the data locally reduces bandwidth and cellular data usage
 - Remote plants are less subject to connectivity losses that can hinder mission-critical and time-sensitive decision making

Start-up spotlight: Octonion



- **Octonion** integrates AI into low-power microcontrollers, an example of how **intelligence can be embedded in industrial products**
- This technology helps companies **make smart decisions locally and in real time** using continuous learning models & machine health scores
- Example use cases include:
 - Deploying AI on industrial motors / pumps to improve monitoring
 - Developing predictive maintenance capabilities



5G factory revolutionizes manufacturing

- 5G is expected to reach a **global economic output of \$13.2 trillion** and **generate 22.3 million jobs by 2035**, accelerating the shift towards the Industry 4.0
- **100 times faster than 4G**, 5G offers **drastically reduced latency** that makes it possible to share data quickly, erase processing delays and ensure factory systems can react in real time
- The reliability of 5G connectivity guarantees a **stable and constant network connection** anywhere and at any time ensuring the continuous execution of business-critical missions
- 5G may usher in an era of **massive machine-to-machine communication**

5G in practice: smart factory



- **IBM**, Samsung Electronics, Singaporean telecommunications company M1 & Singapore's Infocomm Media Development Authority are **testing 5G manufacturing use cases**
- The goal is **to improve equipment monitoring and predictive maintenance** using AI in image recognition and video analytics, facilitating automated visual inspection and acoustic insights
- The group is also testing augmented reality's **ability to boost productivity and quality in assembly**



Smartphone data powers usage-based auto insurance while improving driver safety

- The market for usage-based insurance (UBI) is **projected to reach \$126 billion by 2027**
- Developments in telematics (long distance transmission of information) have fueled one example of UBI: **automotive insurance tailored to driving behavior**
- With **3.8 billion smartphone users expected by 2021**, mobile telematics allows insurers to use sensors and tracking technologies embedded in smartphones to **collect real-time data** and **better understand their customers' driving habits**
- Ultimately, this will give insurers the opportunity to offer **more competitive** and **innovative behavior-based insurance programs** while fostering driver safety

Start-up Spotlight: TrueMotion



- **TrueMotion**, identifies good vs. risky drivers and **adjusts premiums** using their driver behavior scores
- Users can see their driver behavior score and how many times they drove while distracted, hit the brakes too hard or found themselves in dangerous situations
- Another of TrueMotion's products uses smartphone sensor signals to **detect car crashes** and provide **context data on accidents**:
- Customers can file a claim from their phones, **streamlining the insurer's claim processes**



Automated and explainable AI makes financial organizations smarter

- **86% of Financial Services C-suite respondents** to a recent Economist Intelligence Unit study **expect to increase their AI investments by 2025**
- For companies to **exploit the full potential of AI**, employees without a highly technical background should be able to use it to increase operational performance
- It is critical for the **deployment of AI at a larger scale**, that **user-friendly AI platforms** allow business employees to **quickly build models**, easily understand and **trust their output** and confidently make decisions

Start-up Spotlight: DreamQuark



- **DreamQuark's Brain** is a **fully automated AI platform** for sales & customer engagement teams in the Financial Services industry
- Employees with no data science background can **create AI models using prebuilt apps** that leverage the start-up's proprietary deep-learning technologies
- One tier-1 bank used the platform to help build an application that **detects more than 40% of fraudsters**
- A top French insurer is using it to **assess customers' preferences** for pensions, retirement products or savings insurance, and to provide advisers with **insight into the rationale behind the scores**



In cybersecurity, authentication rights and network access get their due

- According to a report published by Interpol, Covid-19 has created an unprecedented opportunity for cybercriminals, due to the rapid **shift to remote systems & networks**
- However, most companies overestimate their cybersecurity performance, with **only 24% actually meeting the bar** according to a 2020 Bain study
- Identifying common IT security weaknesses & developing cybersecurity maturity is central to building **truly resilient digital organizations**

Start-up Spotlight: Alsid



- **Alsid**, a cybersecurity start-up focused on protecting companies' active directories, which they see as the main point of vulnerability
- Alsid advises their customers to focus on 3 steps to **enhance their cybersecurity**:
 - Tailor their security to their active directory
 - Invest in monitoring to detect attacks in real time
 - Investigate all active directory breaches
- The networks that Alsid works to protect can be sprawling:
 - One large pharmaceutical customer has **360,000 active directory user accounts**, spread over **170 countries**
 - A major telecoms client has **more than a million active directory users** worldwide



Workforce technologies boost agility and profitability

- Globally, absenteeism costs companies **hundreds of billions of dollars per year**
- Retail is particularly dependent on in-person interactions between customers & in-store employees
 - **~88% of global retailers** would rather **overschedule** or add additional labor **than risk being understaffed**
 - This can lead to high labor costs and lower profits
- Workforce management technologies can help retailers **substantially enhance workforce agility**, quickly responding to activity peaks and employee absenteeism, to improve both **operational performance & profitability**

Start-up spotlight: Andjaro



- **Andjaro** have created a staffing optimization platform that manages temporary personnel transfers between sites within an organization
 - Managers can quickly post staffing needs and share information on employee availability
 - The Andjaro algorithm matches managers with available employees, calculates employee travel time between locations, and generates legal documents & payroll information
- Across its clients, Andjaro handles **250,000 internal employee transfers** each year, **generating €20 million in labor cost savings**



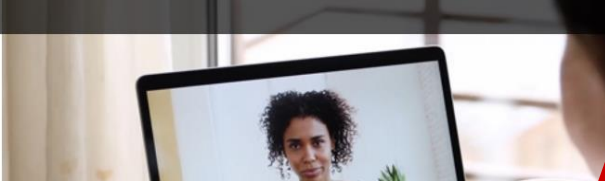
Health data is gold

- The Healthcare “big data” market is expected to reach nearly **\$70 billion in 2025**, almost **six times its 2016 value** of \$11.5 billion
- The rapid acceleration of health data collection gives the industry an unprecedented opportunity to leverage and **deploy groundbreaking digital capabilities**, such as AI, **to improve treatment and patient care**

Health data in practice:

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- Working with Bain’s innovation team, a leading **European distributor of medical supplies & services** has applied AI – including machine learning – to the **treatment of hard-to-heal wounds** by developing a **mobile app for healthcare professionals**
- The app, which has been approved as a medical device, uses **image recognition** to identify whether a **wound is infected or inflamed**
- Its use has led to a **substantial decrease in unnecessary antibiotics** and **cut the healing time of hard-to-heal wounds from years to months**



In HR, cognitive science and gamification win the war for talent

- By 2025, **millennials will be three-quarters** of the global workforce
- As organizations increasingly work with a **digital-native pool of candidates**, they must modernize recruitment
- Using technology to develop an innovative recruiting process can:
 - Improve HR teams' performance
 - Enable faster identification of the most promising candidates
 - Meet the expectations of a new generation of talent

Start-up Spotlight: Goshaba

(goshaba)

- **Goshaba** offers a next-gen hiring solution that automates candidate screening without relying on résumés
- Goshaba leverages **expertise in cognitive science and gamification to create mini-games** for smartphones, tablets & computers
- Their technology evaluates experience, intellectual skills, soft skills, technical expertise, cultural fit and other factors in a **smooth & engaging candidate experience**
- The software generates matching scores which enable:
 - Improved HR productivity through quick identification of top candidates
 - Objectivity & diversity by limiting selection bias



Shifting from selling to renting becomes the green way of doing business

- According to a 2019 report by Gartner, circular economies will **fully replace linear economies** by 2029
- The move from transactional relationships based on selling products to a model of sharing, leasing, reusing, and recycling existing materials and products is gaining momentum as **consumer & shareholder preferences shift toward sustainability**
- Organizations are under growing pressure to reduce the natural resources consumed in the production of products and services

“Technology has the potential to help humanity be better stewards of the biosphere and usher into existence a truly inclusive, circular economy”

Jim Sullivan, Head, SAP Global Sustainability Innovation Accelerator

Start-up Spotlight: Lizee



- **Lizee** helps retail brands **build rental models** by providing white-labeled SaaS solutions, warehouse facilities and logistics services
- An illustration of the breadth of Lizee’s offering is showcased by their work with FashionCo to:
 - Register their rental orders
 - Manage their order shipment
 - Collect & clean their rented product
 - Collect & manage their customer data
 - Restock their inventory



Technology works toward zero food waste

- More than **30% of the world's food is lost or wasted** every year, according to the UN's Food & Agriculture Organization
- Using technology to reduce waste could put a significant dent in the food discarded by retailers and businesses
- This could help increase food security & alleviate the suffering of the hundreds of millions: **821 million people went to bed on an empty stomach in 2019**

Start-up spotlight: Phenix



- **Phenix** have developed a mobile app which helps large food retailers, local businesses, manufacturers & wholesalers **save 120,000 meals each day** by:
 - Selling excess food to consumers at half price
 - Donating any residual excess food to charities
- Through the Phenix app, consumers can:
 - Discover the nearest Phenix business partner
 - Choose their desired type of business (e.g. local businesses, wholesalers) and basket (e.g. vegetarian, organic)
 - Safely pay and receive alerts with their pickup time
- Phenix has **saved 2.3 million drinks from going to waste** during Covid-19 through its collaboration with one of its partners: a global leader in beverages

Lessons learned to reach full potential from current and future tech trends



- Technology is **continuously evolving** – you need to take a cross sectoral view
 - Innovation often arrives from other industries & geographies
 - Bain takes a cross-sectoral view of innovation and looks to identify which trends will grow to traverse sectors
- You need to **invest in enablers early** – late movers struggle to benefit from tech trends
 - Once innovation does arrive in your industry, you have to be ready to move quickly
 - Investing in innovation enablers before the innovation has become mainstream in your sector is key to success
- The **“Human Component”** is key to realising the full benefits of tech trends
 - One of the main barriers to tech deployment is a failure to embed new ways of working amongst employees
 - Unless you achieve employee understanding and buy-in to new technology, it is highly challenging to embed it in the workflow



Questions?

