FUTURE OF WORK

Presentation to CFO Board

Draft

April, 2021

Megatrends are triggering change in operating models…

SMART EVERYTHING
(*Connected Ecosystem*)

Leveraging connected devices such as sensors, wearables, apps, devices, etc. for workforce and workplace for seamless information flow

POWER OF ME
(*Personalization*)

Operating model shift from mass customization strategy to mass personalization is being enabled by cloud

BUNDLED & UNBUNDLED
(Services – Customer Focus)

Bundled Service offerings & unbundled microservices are giving the great flexibility to achieve business outcomes

Hyper Automation
(*Focus on speed and accuracy*

Achieving high levels of automation to ensure standardization, quality and efficiency

Fail Fast
(*Operational Agility*)

Inducing agility in the systems to be able to quicky detect anomaly and recover from it without much impact

HYBRID WORKING
(*Covid Impact*)

Post covid push towards hybrid work allowing employees to work physically at offices and remotely from their homes

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These themes are being accentuated due to wider disruptions

1 **Organizations are more global than ever**

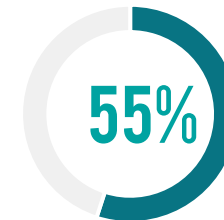The world is more connected than in any other point in history

60% Of the total assets of the top 100 MNCs are held by foreign affiliates

3 **The New Normal is here to stay**

The pandemic has had an ever-lasting impact on business decision making

55% Of enterprise clients expected **changes in their business priorities** due to COVID

2 Forces shaping today's work

TECHNOLOGY DISRUPTIONS

The way humans carry out work has changed rapidly due to advancements in technologies

87%
Of senior business leaders say digitalization is a priority

85%
Qf large organizations will have deployed RPA by 2022

Talent and a new working reality

Businesses are looking to change their recruitment strategies as remote working has widened their potential talent pool

#1
Talent risk' rises 11 places since the beginning of the year to be the number 1 threat to long-term growth

WORKFORCE DEMOGRAPHICS

Organizations will need to add flexible workforce with the right skills

50%
Of businesses have an increasing need for STEM talent

~$300BN
Contribution of the gig economy in 2020

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Hybrid working is gaining acceptance and will mature, enabled by Digital technologies.

Remote and Hybrid Work Models Top List of Enduring Practices Defining the Future of Work- Enabled by Digital Transformation Technologies

Which work practices and technology advances emerging from the pandemic are most likely to endure?

Remote and Hybrid work models will be an embedded part of accepted work practices for many industries — **49%**

Intelligent digital workspaces will be an expected way of working across locations, time zones and devices — **44%**

Shift to the reliance on **cloud-managed** and based connectivity/devices/services — **41%**

Automation of repetitive tasks and workflows will become more ubiquitous — **40%**

Physical workspaces will become increasingly instrumented , interconnected and intelligent — **37%**

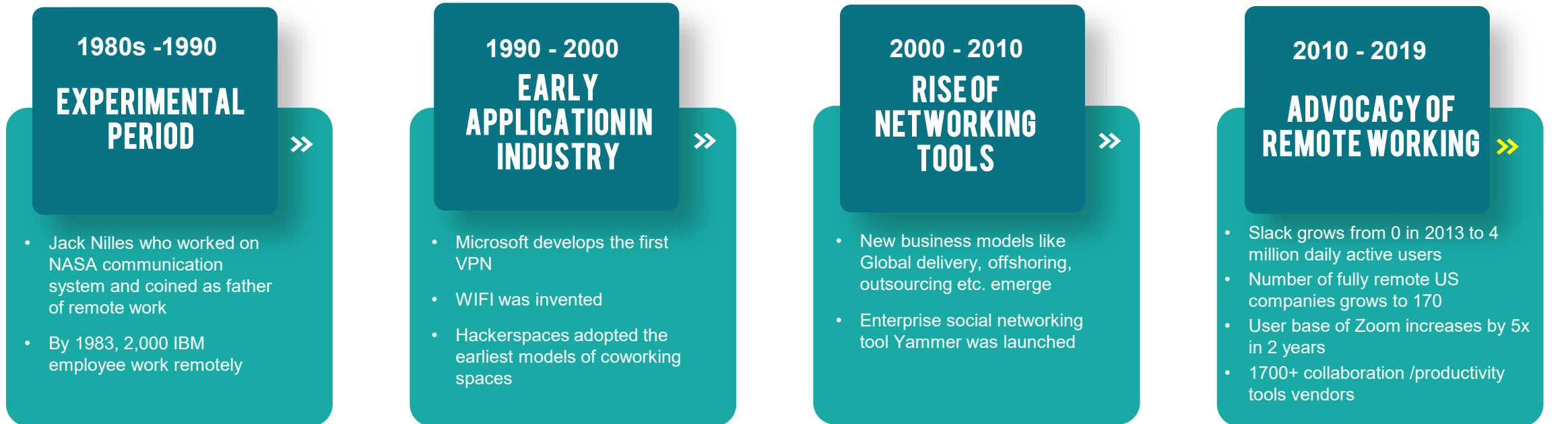**Employee Experience** as a driver of business growth and innovation will remain a top priority — **35%**

Online-first preference for collaboration — **30%**

Evolution of remote working over the era

1980s -1990
EXPERIMENTAL PERIOD

- Jack Nilles who worked on NASA communication system and coined as father of remote work
- By 1983, 2,000 IBM employee work remotely

1990 - 2000
EARLY APPLICATION IN INDUSTRY

- Microsoft develops the first VPN
- WIFI was invented
- Hackerspaces adopted the earliest models of coworking spaces

2000 - 2010
RISE OF NETWORKING TOOLS

- New business models like Global delivery, offshoring, outsourcing etc. emerge
- Enterprise social networking tool Yammer was launched

2010 - 2019
ADVOCACY OF REMOTE WORKING

- Slack grows from 0 in 2013 to 4 million daily active users
- Number of fully remote US companies grows to 170
- User base of Zoom increases by 5x in 2 years
- 1700+ collaboration /productivity tools vendors

Pre Covid

72% Of the customer service and support functions operated from office

<10% Of the workforce working from home

76% Of customer service & support functions have 80% to 100% of their staff wfh

89% Of service leaders forecast 20% to 80% of their workforce will still be working from home two years from now

Post Covid

Statistics from Gartner report

Covid has pushed organizations to re-vamp their Remote working capabilities

Globally organizations are embracing the remote work culture at their own pace and gradually making the upshift and transitioning to an improved state

Level	Description	
Evolved	The organization is completely transformed with remote working	**L5**
Adapted	Organization imbibes and shows visible signs to support the remote work culture	**L4**
Optimized	Organization has started to modify the existing way of working to leverage the potential of remote working capabilities	**L3**
Initiated	Using remote working solutions in the conventional way of work.	**L2**
Nascent	No specific measures to support remote working, but users could still manage	**L1**

Before COVID19, majority of the organization were at level 1, with few outliers at level 2-3. COVID19 has shifted the volume towards level 2-3.

Source : Gartner (Future of WFH)

Companies are rapidly climbing the maturity scale. Which level of the pyramid do you feel your company belongs in?

Organizations are exploring new hybrid ways of working

Organizations are exploring different models to align with the new ways of working. Depending on the maturity and capability of the organization several hybrid models have evolved in the recent past.

Traditional	Pop-up	Mixed	Professional	Extreme
– Main Head Office (HO), satellite or regional offices, contact or operational centres – Almost 100% desk-based – Flexibility for some to work from home on occasion or pattern.	– Estate allows for temporary or pop-up offices, e.g. WeWork, for key projects, overflow, etc. – Other features as per traditional set-up	– Desk ratios reduced for Head Office and some other locations to encourage more offsite / home working – Limited defined population	– Much lower HO desk ratios – Expectation that employees will spend significant time working elsewhere – Broader population affected (but not contact centre)	– Hyper virtualization – HO is not for day-to-day working. It has a different purpose and is much smaller, and can therefore be more creative and high-tech – Most people work remotely

100% working onsite → *100% remote*

Diverse set of Technologies are blended to make Remote working successful

Enabling a remote workplace requires coming together of multiple capabilities, there are three which are interrelated and are imperative to each other

Key Business Expectation

Collaboration

- Identifying right collaboration tools
- Fostering collaboration culture in the organization
- Avoid communication gaps and disconnected workforce

Productivity

Key Business Expectation

- Ensuring productivity thresholds are achieved to continue business as usual
- Identify ways for tracking productivity and hence enhancing it
- Ensuring adequate levels of engagement for managing Productivity levels

Technology

Key Business Expectation

- Enable sustainable and scalable remote workplace environment
- Provide the required tools to optimize the ways of working.
- Ensuring the right technology skill sets are available to support seamless remote working

Evolution of Collaboration over the Era

THE PERSONAL CAPABILITY ERA

- Emphasis on the capabilities of an individual
- In this era, workplace technologies were restricted to the use of end point devices.

THE COLLABORATION ERA

- Focus shifted to collaboration
- We saw higher degree of Collaboration among team members for sharing and execution ideas, partially supported by tools.

THE MOBILE ERA

- Ubiquitous access to information was the main driver
- Stakeholders from both inside/ outside the organization could collaborate to generate new ideas and drive execution.

THE CONNECTED WORKPLACE

- CX technologies came to the forefront.
- We saw connected workforces and open innovation being driven virtually using technology/ software tools for Innovation and service delivery

6 Key themes define the Future of Collaboration & Productivity in the remote working era

1 **Virtual Team Space**

Agile Project Management activities like Scrum meetings are being successfully managed through dedicated channels

2 **Rise of Platforms**

Collaboration Platforms act as a single, secure hub for teamwork which can be easily integrated with existing technology stack

3 **Digital Architecture**

Future architecture will be a mesh of microservices with new platforms and applications getting added for delivering business outcomes

4 **Secure Collaboration**

Organizations emphasize on proactively establishing security, Data compliance and User Privacy guidelines tor digital collaboration

5 **Open Innovation for external collaboration**

Hackathons, campaigns, etc are connecting internal & external stakeholders, thereby enabling sourcing of ideas, brainstorming on issues by leveraging diverse perspectives

6 **Fostering a culture of Collaboration**

Multiple initiatives are driven across the organization to foster the culture of collaboration
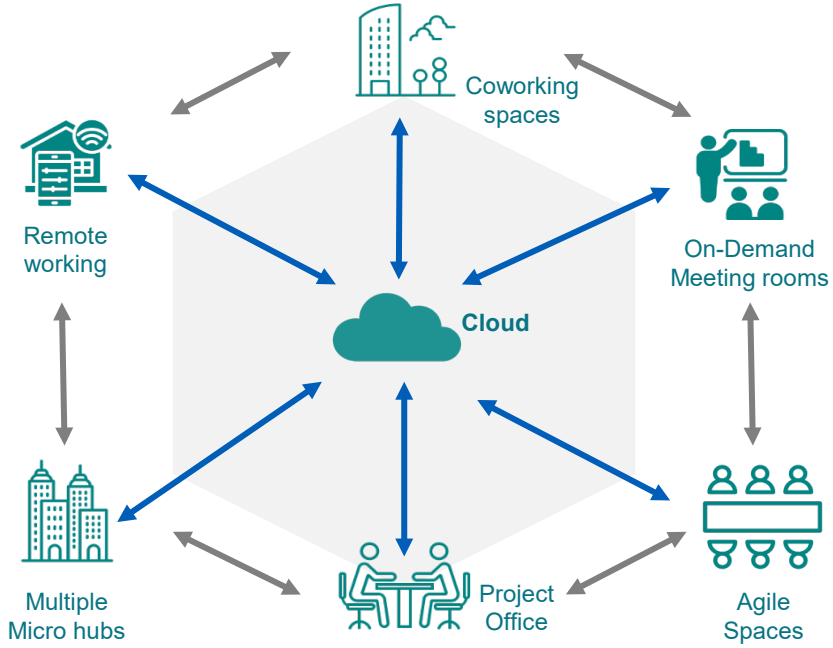
01 | Virtual Workspaces

TRADITIONAL WORKSPACE > **TRANSITION** > **VIRTUAL WORKSPACES**

FROM

Traditional workspace

Project Office

Satellite Offices

Agile Spaces

TO

Coworking spaces

Remote working

On-Demand Meeting rooms

Cloud

Multiple Micro hubs

Project Office

Agile Spaces

Value Realized

Accelerate movement to Low-cost Geographies

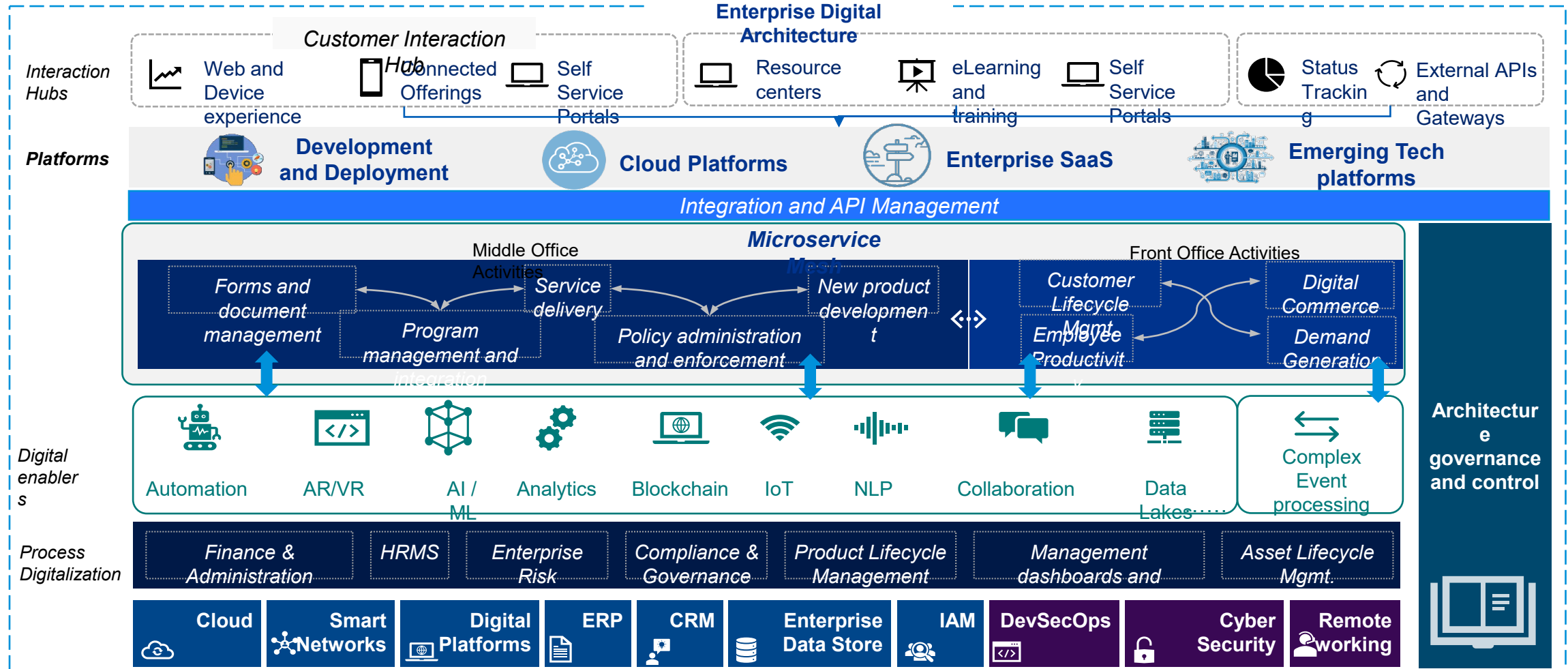Enhanced Productivity and increased collaboration

Improved Workplace flexibility

Greater connectivity & higher operational visibility

Agile ways of working

02 & 03 | Rise of Platforms & Digital Architecture

Future enterprise will be agile and enabled by an agile and modular Enterprise architecture

Interaction Hubs

Customer Interaction Hub

- Web and Device experience
- Connected Offerings
- Self Service Portals

Enterprise Digital Architecture

- Resource centers
- eLearning and training
- Self Service Portals
- Status Tracking
- External APIs and Gateways

Platforms

- Development and Deployment
- Cloud Platforms
- Enterprise SaaS
- Emerging Tech platforms

Integration and API Management

Microservice Mesh

Middle Office Activities

- Forms and document management
- Program management and integration
- Service delivery
- Policy administration and enforcement
- New product development

Front Office Activities

- Customer Lifecycle Mgmt.
- Employee Productivity
- Digital Commerce
- Demand Generation

Digital enablers

- Automation
- AR/VR
- AI / ML
- Analytics
- Blockchain
- IoT
- NLP
- Collaboration
- Data Lakes
- Complex Event processing

Architecture governance and control

Process Digitalization

- Finance & Administration
- HRMS
- Enterprise Risk
- Compliance & Governance
- Product Lifecycle Management
- Management dashboards and
- Asset Lifecycle Mgmt.

- Cloud
- Smart Networks
- Digital Platforms
- ERP
- CRM
- Enterprise Data Store
- IAM
- DevSecOps
- Cyber Security
- Remote working

04 | Secure Collaboration

Companies are upgrading their security infrastructure by leveraging cybersecurity solutions to provide WFH employees a secure and compliant access to IT systems

Enterprise-wide Secure Collaboration

IT Architecture Standard & Compliance

IT Financial management	Third Party Provider Relationship Management	Application & Technology Engineering	Solution Design

Service Management

Service Portfolio Management	Service Level Management	Availability Management	Change Management	Release & Deployment Management
Service Catalog Management	Capacity & Performance Management	IT Service Continuity Management	Configuration Management t & Discovery	Incident Management

Operations and Automation

Orchestration & Integration	Provisioning
Service Request Brokering	Operations

- ○ Enterprise managed
- ● Cloud managed

Traditional Data Center

Identity & Security	Software	Manual/Automation Operations
	Platform	
	Infrastructure	

Service Management Tooling

IaaS

Identity & Security	Software	Manual/Automation Operations
	Platform	
	Infrastructure	

Service Management Tooling

PaaS

Identity & Security	Software	Manual/Automation Operations
	Platform	
	Infrastructure	

Service Management Tooling

SaaS

Identity & Security	Software	Manual/Automation Operations
	Platform	
	Infrastructure	

Service Management Tooling

Identity and Security

Cyber Risk & Compliance Management	Security Architecture	Information & Privacy Protection	Identity & Access Management	Threat & Vulnerability Management	Security Information & Event Management

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Value Realized

- 🔒 **Secure remote access to multiple servers/applications**
- ◆ **Zero Trust Architecture i.e. Authentication, Controlled Access based on digital ID's, not just IP Address**
- 🚫 **Immutable and tamper proof logs for real-time visibility and granular control**

Note: This is not an exhaustive list. It is Illustrative in nature

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05 | Open Innovation & External Collaboration

Employees might find it challenging to collaboratively innovate virtually. However, using the right technologies and infrastructure, we can enhance collaboration & accelerate innovation in a remote working setup.

Different avenues for Open Innovation & collaboration

Hackathons

Open Innovation platforms

Whiteboard & Sandboxes

Code Collaboration platforms

Resources and Libraries

Enablers
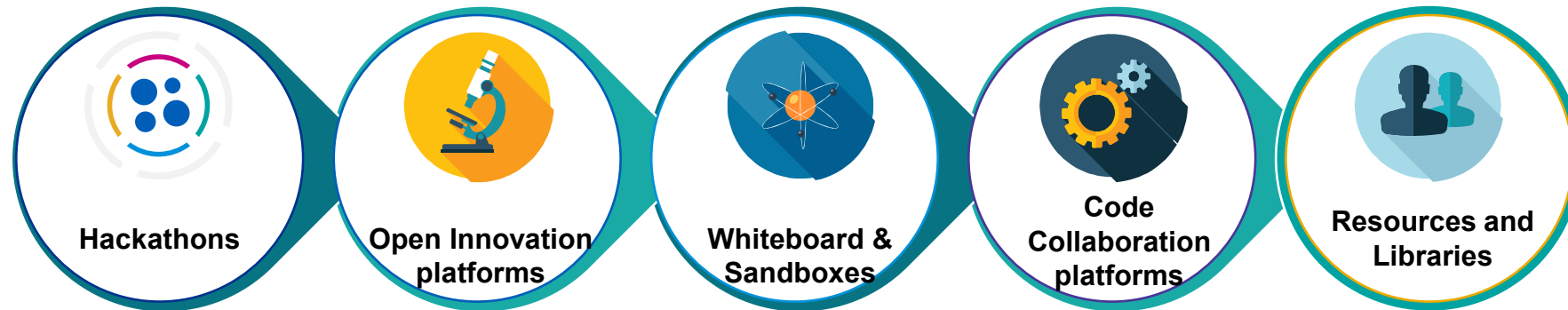
Virtual Infrastructure

- **Brainstorming & Whiteboarding tools**
- **Intracompany social media platforms**
- **Knowledge management**
- **Videoconferencing Tools**
- **Messaging Tools**

Physical Infrastructure

- **Networking Areas**
- **Simulation Experience Centres**
- **Touchscreen Video Walls**
- **Conference rooms**
- **Design studios**
- **Innovation Labs**

06 | Culture shift to promote and foster collaboration

Organizations are increasingly using digital tools and data-powered insights to drive decisions while innovating and collaborating across the organization

Focus Areas	From	To
Workspace	• Co-located work environment • Rigid work schedules	• Mix of virtual and in-person work environments • Flexible work schedules
New People – Machine Workflows	• Disconnected systems • Clunky processes	• Digital, user-friendly systems • Clear human-to-machine workflows
Power & Decisions	• Command-and-control structures • Functional silos and lengthy decision cycles	• Cross-functional structures • Empowered teams and rapid decision cycles
Workforce of the Future	• Traditional Talent sourcing • Lack of focus on Digital Skill development	• Tap into talent clusters • Promote "Employee upskilling"
Leadership	• Incremental change vision • Implementing tried-and-tested approaches	• Continuous change vision • Experimentation and Agile refinement
Employee Experience	• Limited focus on employee experience • Talent decisions on limited facts, gut & instinct	• Employee experienced focused initiatives • Data trends driven decision making

Note: This is not an exhaustive list. It is Illustrative in nature

Productivity Monitoring

Capturing employee performance & productivity data to identify areas of improvement and take corrective measures

Activity Monitoring

Time Tracking

Expense Management

Task Management

Performance Management

Workflow Automation

Productivity Analysis

Sentiment Analysis

Value Realized

Enhanced visibility of employee performance to the leadership

Pinpoint inefficient & redundant tasks

Effectively monitor task progress

Gauge Employee sentiments

Note: This is not an exhaustive list. It is Illustrative in nature

Productivity Tool

Hybrid ways of working is being advanced by newer technologies like Digital Whiteboards & Hybrid Conferencing Rooms

> Virtual-Physical Hybrid Conferencing Rooms are equipped with state-of-the-art collaboration infrastructure that enables teams in a life-sized video to draw or write, annotate images, diagrams, integrate with other apps etc.

Microphone
Touchscreen
Camera
Camera
Motion & light sensors
Pen & charging dock
Pen & charging dock
Speaker
Start menu
Speaker

1 **Seamless Integration**

- Compatible with apps like Word, Excel, PowerPoint, OneNote whiteboard etc.

2 **Touch capability**

- Multi-touch (simultaneous) & multi-pen capabilities

- Rechargeable pens for inking, annotating, rest and recharge right on the device

3 **Simultaneously multitasking**

- Simultaneously open & run multiple applications on cascaded windows for asynchronous collaboration

Digital Whiteboards for conferencing

Microsoft Surface Hub

Jamboard

SAMSUNG FL!P
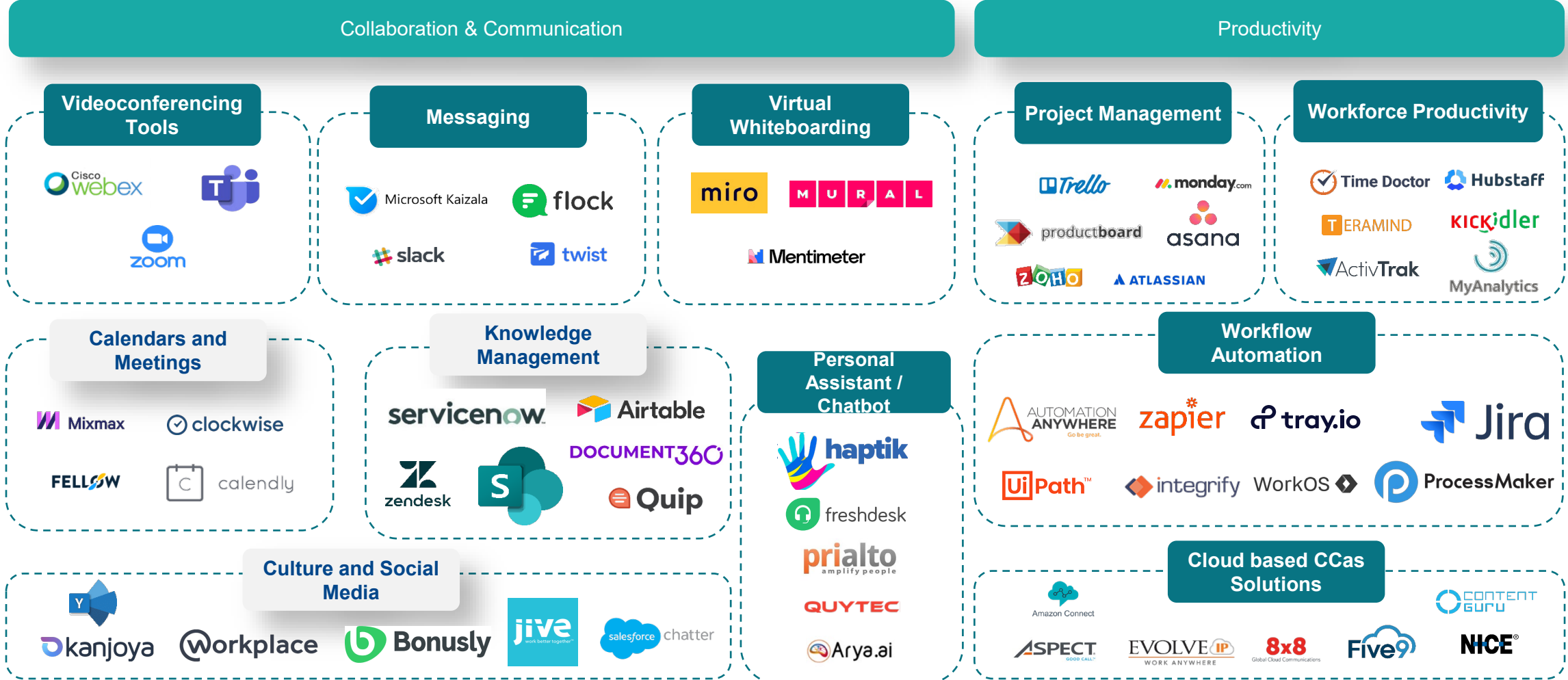
APPENDIX

Key considerations for Organization leaders in view of this evolution(1/2)

01 What would this mean for Employee and Customer Experience ?

02 What all competencies/ capabilities would underpin this new operating model?

03 What is the role of Ecosystem propositions in this new operating model ?

04 How does this map our blue collar as well as white collar workforce?

05 What is the right mix of Digital and Human workforce for our future model ?

Key considerations for Organization leaders in view of this evolution(2/2)

06   **What would be tech landscape for this transformation?**

How should we prioritize investments in such scenario?   **07**

08   **What all skills would we need in the future? How should they be sourced/developed?**

How do we reimagine productivity and performance measurement in this context?   **09**

10   **How do we manage risks dynamically?**

01 | Employee engagement – key challenges in remote learning

Mental Health

- Struggling to keep a positive outlook with limitations on the social aspect of the workplace
- Drawing boundaries between personal and professional life

Remote Teaming

- Challenges in making collaboration work owing to disrupted environment
- Need for much deeper personal connects to ensure right team composition & work distribution

Building Trust

- Lack of trust arising from reduced physical connect
- Increased micro-management and reduced autonomy leading to toxic work relationship and delayed outcomes

Measuring Performance

- Shifting focus from number of hours invested to outcomes delivered
- Challenges around recognizing nature of extent of value add

Building Networks

- Shrinking personal networks due to reduced informal communication
- Added effort towards conscious networking owing to lack of chance meetings at the physical workspace

02 | Themes of new operating model

Cloudification
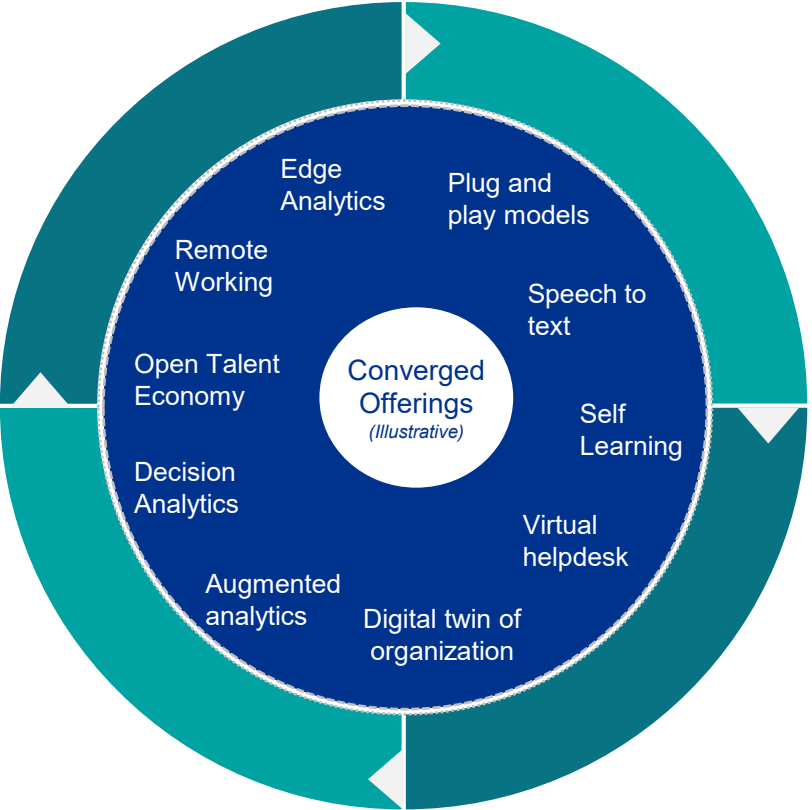Agile technology deployment at scale

Key Enablers : Hybrid Cloud, Kubernetes Clusters, XaaS,

Cognitive Data Science
Leveraging AI and Data science to analyze data sets and derive insights

Key Enablers: Data lakes, Distributed Data Mesh, Neural networks

Connected Mesh
API driven agile ecosystem of connected microservices integrating application and platforms

Key Enablers : Microservices, connected ecosystems, Istio, Digital Collaboration

Hyper Automation
Providing ease of automating business processes or app development

Key Enablers : Quantum AI, GPT 3, No / Low Code

Converged Offerings (Illustrative)
- Edge Analytics
- Plug and play models
- Remote Working
- Speech to text
- Open Talent Economy
- Self Learning
- Decision Analytics
- Virtual helpdesk
- Augmented analytics
- Digital twin of organization

61% Percent of businesses use IoT platforms *(e.g. IoT, Business Intelligence and analytics platforms)*

70% G2000 companies will have metrics to evaluate value realized from data, by 2023 [2]

69% Routine work done by managers will Be fully Automated by 2024 [3]

03 | Digitally enabled factory workforce would augment smart manufacturing

Flexible production line
Sensor-based production control and real-time optimization

Connected machines enable "whole line" performance visibility

Demand driven
Digital tools enabling more efficient procurement processes

Supply chain algorithms balance customer service vs. costs
Real-time inputs flowing in for customized production

Lead goods in-stock
Big data-driven raw material analytics to **optimize feedstock costs**

Real time maintenance
Advanced analytics-based predictive and risk-based maintenance

Advanced Automation
Improve production yield/to-spec product quality and energy efficiency

Monitor batch processing and recommend changes in operating conditions, variable parameters to **improve first pass yield, reduce total quality cost**

Advanced Asset Management
Real-time asset condition information with predictive analytics to determine the likelihood of asset failures and plan production accordingly
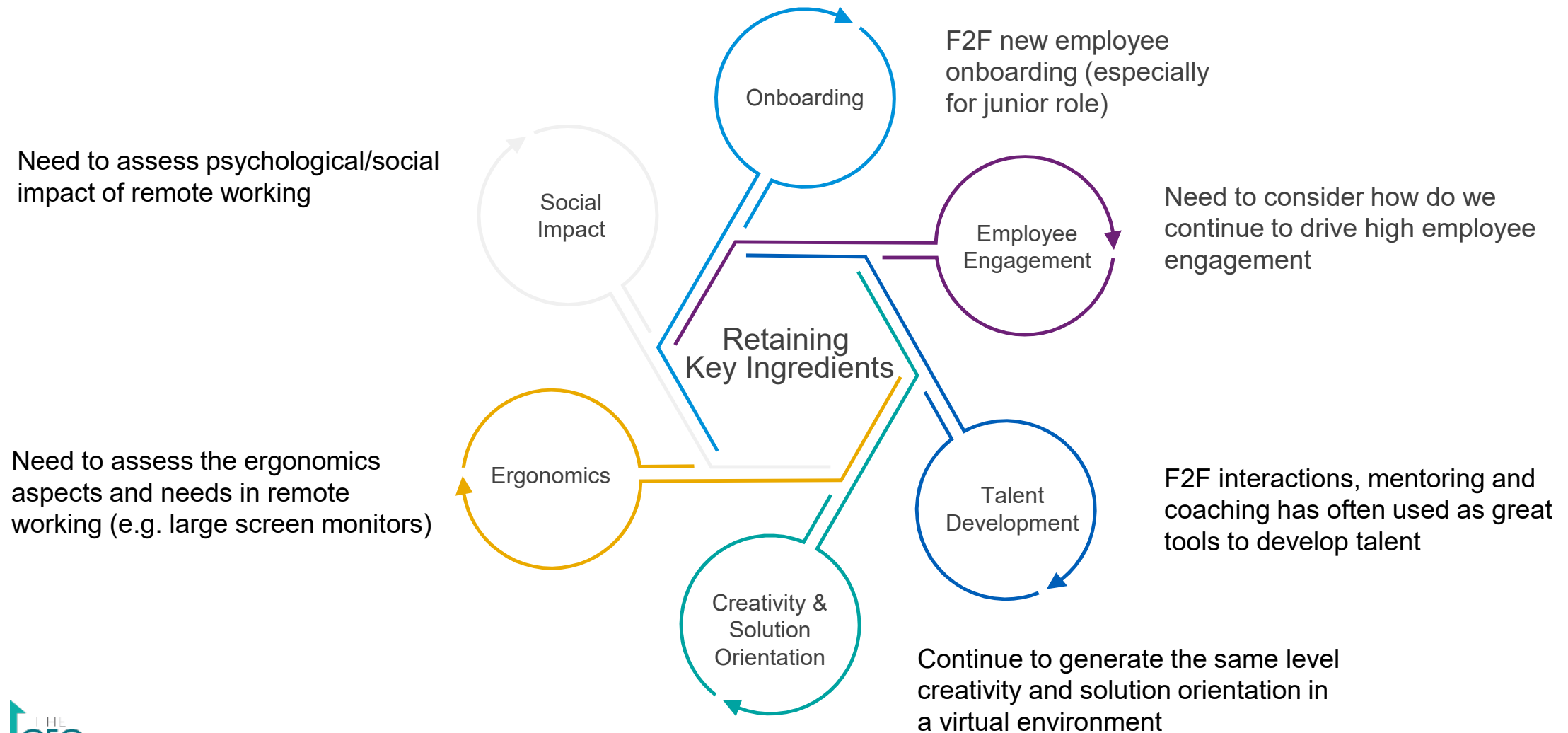
Automated and Connected Workspace
Production automation by application of autonomous logistics, drone inspections

Real time collaboration between engineers and teams
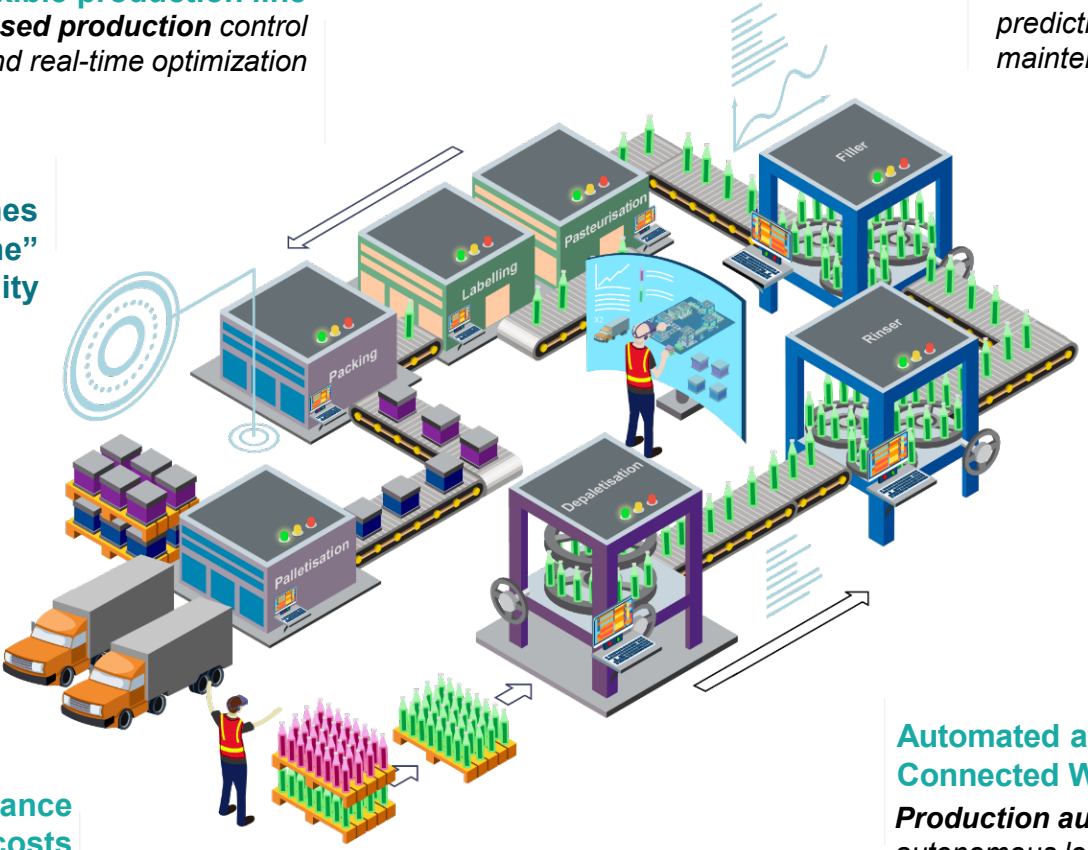
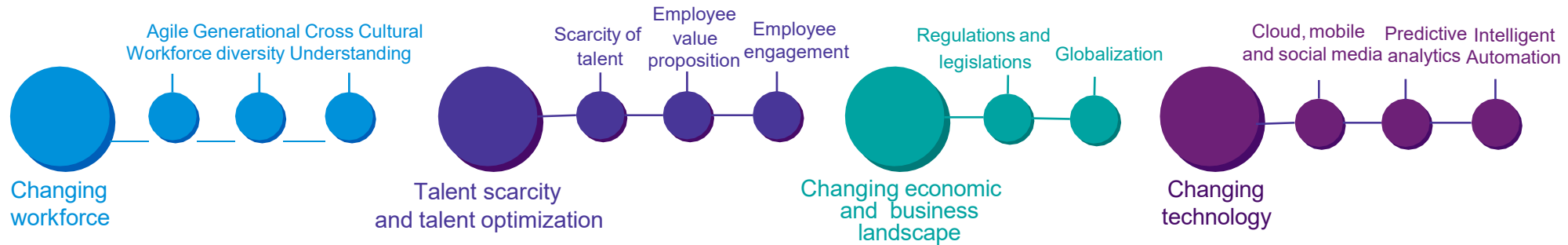# The post pandemic ecosystem will see some change compared to pre-Covid scenario.

F2F new employee onboarding (especially for junior role)

Need to assess psychological/social impact of remote working

Need to consider how do we continue to drive high employee engagement

Need to assess the ergonomics aspects and needs in remote working (e.g. large screen monitors)

F2F interactions, mentoring and coaching has often used as great tools to develop talent

Continue to generate the same level creativity and solution orientation in a virtual environment

....giving rise to newer roles and skillsets

The fundamental character of an organization is changing radically due to digital interventions such as Intelligent Automation, Data Analytics, Blockchain etc.

Macro people and talent Trends

To prepare the workforce of the future, it is essential to understand the trends and the impact they will have on the talent pool

Changing workforce — Agile Workforce, Generational diversity, Cross Cultural Understanding

Talent scarcity and talent optimization — Scarcity of talent, Employee value proposition, Employee engagement

Changing economic and business landscape — Regulations and legislations, Globalization

Changing technology — Cloud, mobile and social media, Predictive analytics, Intelligent Automation

Future Roles

Policy Compliance	Digital Strategy		Data interpretation and analysis	Bot Development	Design Mindset	Emotional Intelligence	Proactive Threat Detection	Risk Acumen
Strategic Thinking	Tech Func	Financial Analysis	Governance and Control	Market Knowledge	Bot Compliance	Change Catalyst	Talent Management	Adaptive Security	Smart Reporting

| Digital Finance Maestro | Process Mentor | Accounting Detective | Automation Orchestrator | Risk Scientist | Automation Artist | Innovation Think Tank | Workforce Shaper | Cyber Security Captain | Obsessive Customer Delighter | Analytics Wizard |

26

Hybrid environment | Microsoft solution (process)

Hybrid environment | Microsoft solutions

Microsoft solutions

Our portfolio of integrated customer solutions is built for the era of hybrid work – enabling organisations of all sizes in every industry to emerge from the crisis stronger and poised for growth.

Flexible work

- Microsoft Teams
- Microsoft 365
- Windows Virtual Desktop
- Modern Windows 10 devices and Surface devices
- Microsoft Viva

Agile supply chain

Dynamic 365
- Supply Chain Management
- Commerce
- Finance

Product development

- Visual Studio Family
- Azure DevTest Labs
- GitHub
- Microsoft Teams

Rapidly adapt and automate

- Microsoft Power Apps
- Microsoft Power Automate
- Microsoft Power Virtual Agents

Cloud migration

- Azure IaaS
- Azure SQL
- Azure App Service

Business processes & workflows

- Microsoft Power Platform
- Azure IoT
- Microsoft 365
- Microsoft Teams
- Microsoft Viva

Sales and service

- Marketing
- Sales and Customer Service
- Commerce
- Field Service
- Customer Insights
- LinkedIn Sales Navigator
- Microsoft Teams

Business insights and analytics

- Dynamics 365 Customer Insights
- Microsoft Power BI
- Azure Machine Learning
- Azure Synapse Analytics

Security

- Azure Active Directory
- Microsoft Threat Protection
- Azure Security Centre
- Azure Sentinel
- Microsoft Information Protection
- Microsoft Insider Risk Management

Thank you