



Jelly Bean Working

The new world of work

By Philip Ross

unwork.com

In Association with



Introduction from Mirvac

Companies that occupy office space are referred to as tenants or end users. But these familiar terms don't effectively communicate the idea that businesses want their workspace to be a flexible resource. They are increasingly looking for providers of that workspace to be more like business partners than traditional landlords. Historically, leases are inflexible in structure and require decisions to be taken that are counter-intuitive to a company's need to flux, grow, contract and respond to markets. As a result, workspace today can be very uncompromising.

This discussion will explore the evolving needs of tenants, and what is driving them in terms of change and challenge.

This discussion will explore the evolving needs of tenants, and what is driving them in terms of change and challenge. From emerging technology, and the demand for better food and drink, to the need for new shared spaces and the rise of mixed-use developments where people will live, work and socialise in environments that blur the boundaries, are all key trends that will shape workspace requirements for the future.

As emerging technology provides us with new opportunities to innovate and lead the way in meeting changing workspace requirements, Mirvac has supported this pioneering futures report as an important contribution to future of work debate.

Enjoy our discussion around Jelly Bean working.

Max Wilson

**General Manager, Corporate Solutions,
Commercial, Mirvac**

Max.wilson@mirvac.com



Introduction from Philip Ross

Founder and CEO of UnWork.com

Work is becoming dispersed. New technology has made distance irrelevant and a perfect storm is emerging combining cloud-based software with new devices and always-on wireless connections to herald the 'death of distance'.

Location was central to the construct of work. An office building represented a business – its address and phone number was the means of communication and real estate was the container for work housing all the infrastructure, servers, data, paper, files and equipment that comprise office life.

People commuted to these buildings, day in day out and managers were used to presenteeism; managing by watching the backs of people's heads. Supervision and management by inputs was the predominant model where people were seen as units of labour, employed to produce and so get paid for their time.

In this static world it was easy to plan buildings. The spread of networked technology and the personal computer created an order that was predictable and the office building reflected the corporate structure – the command and control hierarchy that created efficiency by co-locating adjacent departments on the tree by headcount and status.

But much of this order is being challenged. The office building is increasingly no longer the container for any of the software, servers and data that the corporation relies on and instead these are provided from the cloud on a consumption-based model. The technologies used for work are also changing. From fixed, personalised PCs to shared thin clients with virtualised desktops and a range of smart portable devices – people now expect computing wherever they are.

The telephone, once anchored to the desk, is dying. People want to call people; not a desk or a room. And so we will see the end of the desk phone and instead a move towards mobility and software-based communications. And where once we needed four ethernet cables per desk, today for many the default connection is wireless as ubiquitous unconscious connectivity changes our perceptions of where work takes place.

As we head into a knowledge economy there is a shift towards managing by outputs – results-orientated management or results-only work environment (ROWE). Managers are learning new skills as people no longer co-locate. Distributed teams will use collaboration platforms and demand 'presence of the community' to change communications, collaboration and digital etiquette.

Presence will appear anyway within software. It will become a matter whether people use it or not. We are already familiar with a presence icon in Skype or Lync – the little coloured dot that you set to explain your presence or state is basic today – available or in a meeting, do not disturb or away.

Tomorrow this presence icon will become part of the way you work, and will change the nature of how and when people communicate with you as well as how colleagues and managers interact with you. It will become your 'Jelly Bean' representing what you are doing and where you are, shaping how you connect with others and the world around you.

Jelly Bean working will result in a real-time building – a new vision for connected real estate that knows who's in, what they are doing through their Jelly Bean and their interests, conversations or current projects through internal networks such as Yammer, Delve and Sharepoint or email tracking systems.

As social media collides with bricks and mortar, Jelly Bean working will realise the goal of engineering serendipity – creating the bumps and interactions on which knowledge workers will thrive as a means to enable unexpected conversations. It will create the 'adjacent possible' articulated by Steven Johnson in his book *Where Good Ideas Come From* as a trigger for innovation and creativity.

Jelly Bean workspace will be very different. It will focus more on activity settings where people choose a place based on who they are and what they want to do – a people-centric workplace rather than one based on space standards and desk sharing ratios.

philip.ross@unwork.com

What fun we shall have, we shall all have such fun
In our Jelly Bean world. And we'll get so much done!

Said Manager One to Manager Two:
What is a Jelly Bean? What does it do?

Well ...



unwork.com



Contents

Introduction from Mirvac	2
Introduction from Philip Ross	3
The Future of Work	6
The Key Drivers of Change	7
Culture	8
Shirking from Home	9
People	10
Where Good Ideas Come From	12
Technology	14
More Than One	14
Location-Aware Buildings	16
Connecting The Unconnected	17
Real Time Real Estate (Retre)	17
Connecting The Connected	18
New Space For Collaboration And Teams	20
Real Estate	22
Child's Play	22
Breaking The Outdated One Person: One Desk	23
Is Sitting The New Smoking?	25
The Future Of Work	26
The Future Of Space	28
Conclusions	30
Jelly Bean Working By Matt Harvey	32
About Mirvac	34
About Unwork.com	34

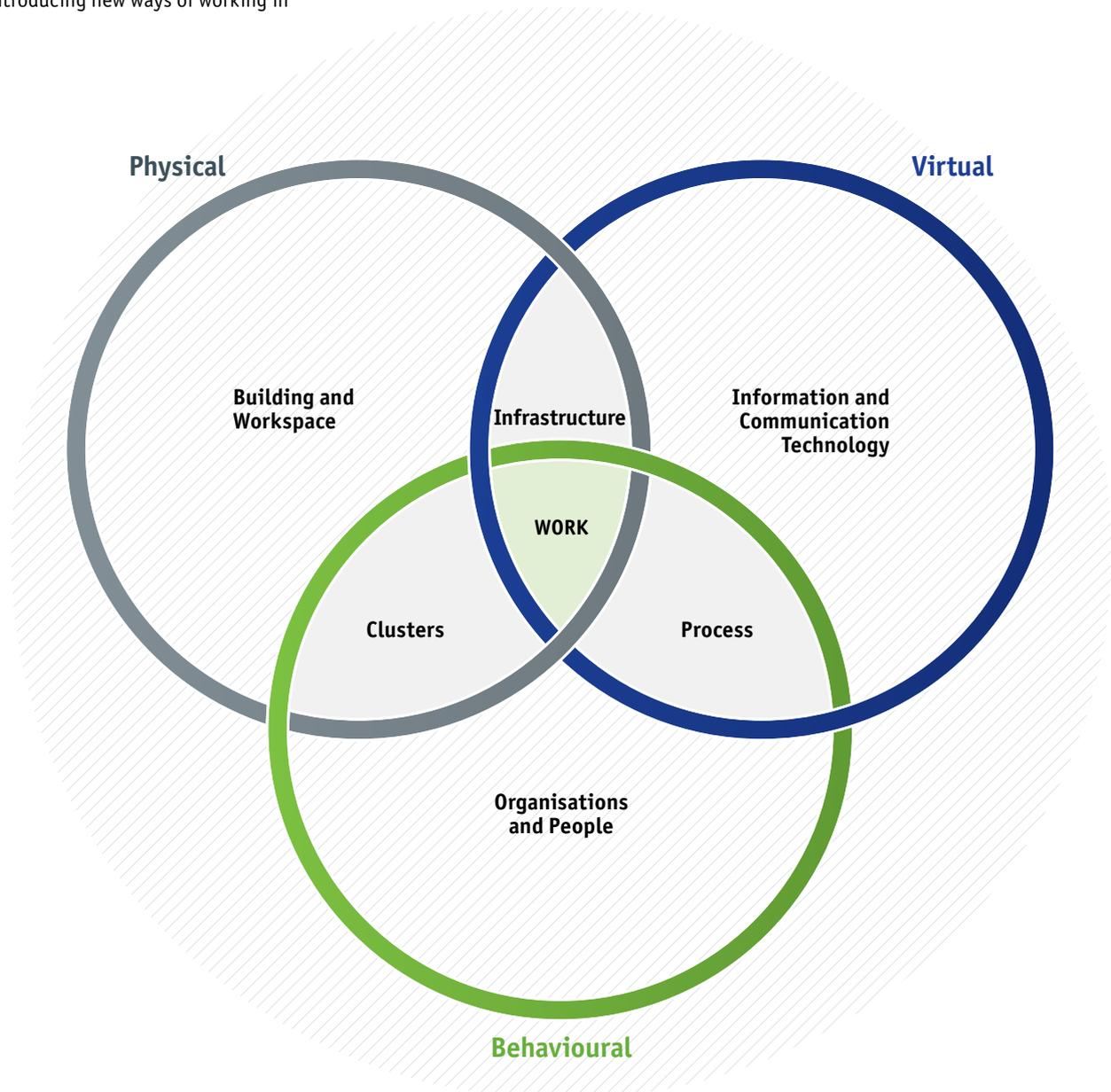
The Future of Work

Work is changing. The collision of new technologies that include portable devices (tablets, phablets, laptops and smart phones) combined with always-on connectivity (WiFi and 4G) and the migration of data, processing and software to the cloud means we are entering an era that will define a new world of work. People, and especially the next generation, have different expectations about how, where and when work takes place and can be provided with space that is more aligned to their needs.

And physical space itself is expensive, underutilised and not aligned to the real work that is undertaken. Most corporations are introducing new ways of working in

response to a range of forces to achieve a variety of identified business outcomes. The future of work can be articulated by three converged functions – people, place and technology – that together will define the behavioural, physical and virtual realms. While these traditional siloed areas create potential for change, it is the overlaps where significant innovation can appear: clusters between people and space as buildings house communities, new work process as technology changes workflow and introduces collaboration and vanishing infrastructure as the cloud takes servers and data out of buildings.

The future of work is a fusion and it is primarily about people – how to attract and retain the best talent and then how to provision a workplace that lets them do great work. Space and technology are enablers. And so one thing is clear – workplaces can no longer be homogeneous. People are not the same and so the office will celebrate difference and become a more heterogeneous place with choice, variety and adaptability as key drivers.



The Key Drivers of Change

We believe that there are seven forces (endogenous and exogenous) that are shaping the future of work:

- management culture
- demography/people
- technology
- transport/commuting
- sustainability
- brand/narrative
- the city, workplace and property



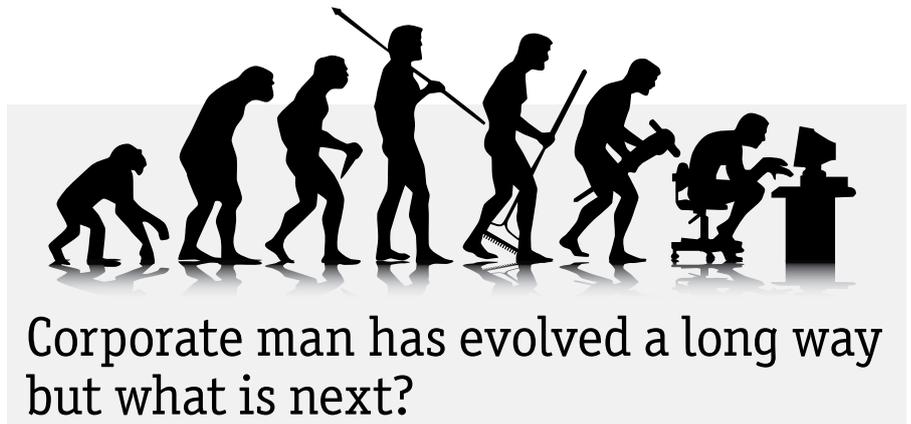
Culture

Early workplaces were the adjunct to industrialisation and were modelled on the division of labour and the production line. Fordism and Taylorism were the predominant models of organising labour and management by input, presenteeism and supervision evolved as the means of organising white collar work. The physical manifestation of this was serried ranks of desks, with managers who watched people at work – process-driven tasks in a white collar factory.

Not much has changed in 120 years. Most people are still tied down to a desk; a piece of wood that is the place of work for the majority of the working day, regardless of task, role or preference. Technology and paper have always anchored us down to this piece of wood – the telephone, typewriter, in-tray and files that still dominate the workplaces of the 21st century, just as they did for our parents and grandparents in the 20th century.

Soon, the construct of calling someone's desk or office to speak to them will become anathema – people want to connect to people, not to their desks or rooms, and so an uncoupling of communications will emerge. Technology is about to be 'unbundled' from the desk.

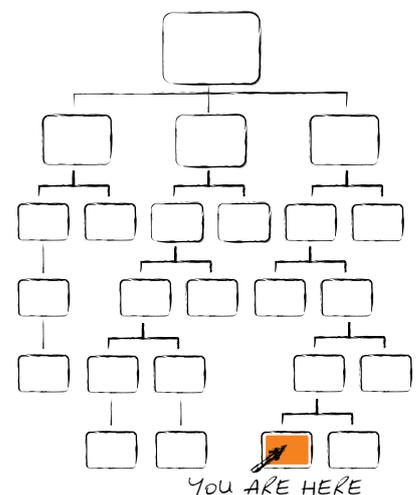
Space is expensive, with the average annual cost of providing a desk in London, Sydney or New York or another global city at around US\$18,000 per person per year. And so space standards have been squeezed to a point where people have a few square metres to call their own – they are 'max-packed' into workplace. And the paradox is that while desks are densely packed – they are often empty as on average only 48% of the space is occupied at any given point in time – 52% lies empty and at the same time people report that they can never find a meeting room – the mix is wrong.



Today we take the corporate chart – the hierarchy that shows departments and structure and transpose it onto an office building. Adjacent departments sit conveniently on the same floor and the building becomes a representation of this corporate structure. It provides order, even though it lacks flexibility – for example, when head count in one department increases, it becomes a complex puzzle to re-accommodate departments. Offices have to be continually replanned as moves and changes occur on an ongoing basis as the organisation grows or contracts.

And this 'churn' as it is called can be both disruptive and expensive. Packing up personal files and the contents of the 'pedestal' into crates, moving desks and technology over the weekend, and getting people back to work on a Monday reflect an approach that is out of sync with fast company behaviour.

These are vestiges of a different era. The move away from process to knowledge work, emerging technologies, new management styles, changing expectations, sustainability and wellbeing are challenging the status quo – leading companies are gaining competitive and cost advantages by embracing a new world of work.



Shirking from Home

But managers reflect unease with people working from home. Out of sight can be out of mind. And managers and colleagues can find it a challenge to know if someone is working and if they are contactable or available if they are remote. Famously, Marissa Mayer at Yahoo required people to come back into the office. And many firms, particularly in technology, have reported similar approaches. People like to be with people – the workplace needs a critical mass to achieve a ‘pulse’ and so the mix is changing to where agile working provides a solution both inside offices and beyond.

Culture is moving from one of distrust to one of empowerment, trust and self-determination. People are now measured by what they achieve rather than the hours they sit behind a desk: outputs and not inputs. Work is becoming results-orientated and so can be aligned to the real needs of people so that they can be effective and productive.

People like to be with people – the workplace needs a critical mass to achieve a ‘pulse’ and so the mix is changing to where agile working provides a solution both inside offices and beyond.



People

Most workplaces provide a ‘one size fits all’ approach - homogeneous space and furniture in the pursuit of efficiency and cost saving. But people are different.

We have in the workplace concurrently four generations at work, with age ranges from 22 to 82 - clearly these cohorts have different needs, preferences and requirements - for example, the lux level (lighting level) for a 22-year old is dramatically different to the needs of an average 60-year old.

Understanding the demography of a workforce is fundamental in the pursuit of a workplace solution that matches the needs of an organisation. As well as age, psychometric profiles can determine composition by characteristics and it is clear that one MBTI profile will not thrive in the same space and atmosphere as another. A classic INTJ will thrive in a different environment to an ENTP although both are classified as ‘promethean’ – one an introvert and the other, an extrovert.

But the existing workforce is only half the story. Getting ready for the next generation is even more challenging. They have grown up with, learnt and been taught with technology that is so advanced and way ahead of most corporate solutions. To attract and retain this talent, and to get the best out of them, requires a paradigm shift, from ‘bring or choose your own device’ (B/CYOD) to flexibility, new work spaces and social platforms.

The next generation lives in social networks and is used to synchronous connections and interactions - a far cry from the binary, asynchronous, analogue world in most offices today.

Four generations at work

Traditional

b. 1928 – 1945



Baby boomers

b. 1946 – 1965



Gen - X

b. 1966 – 1977

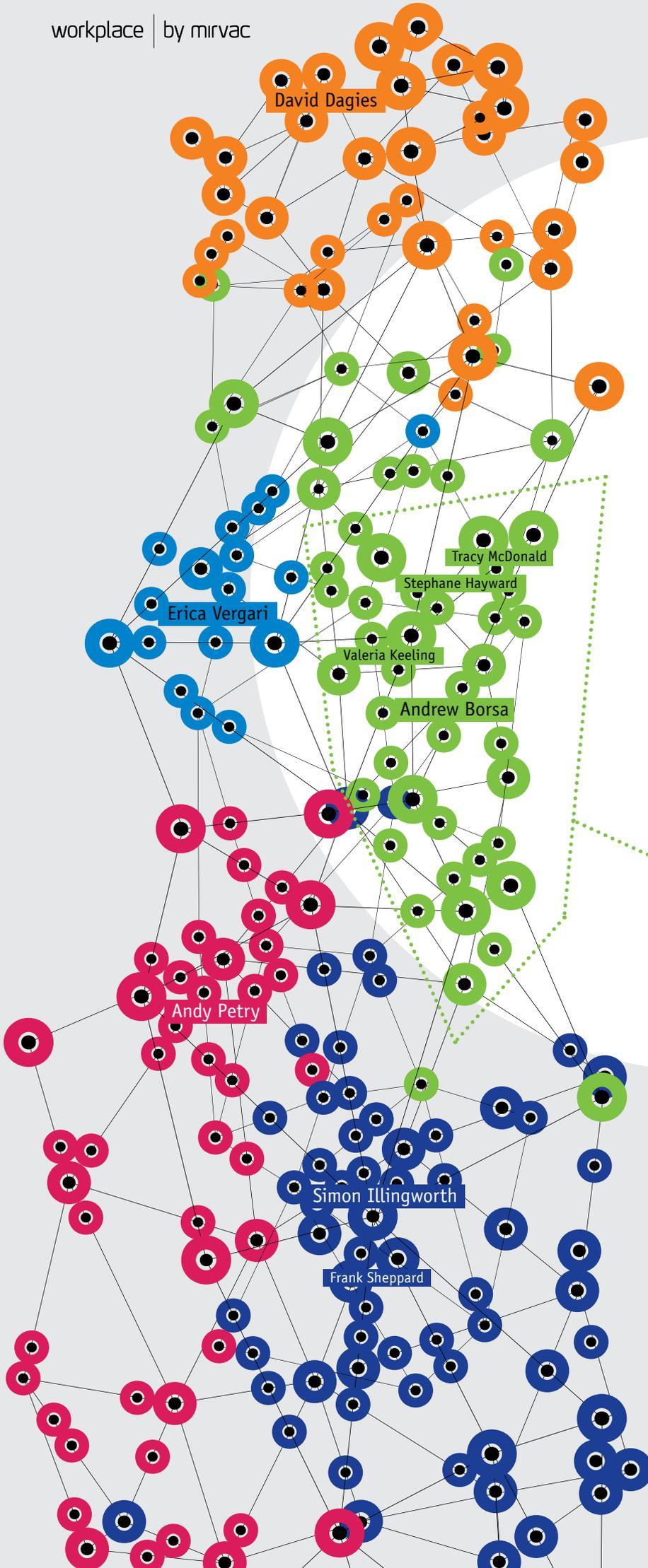


Millenials

b. 1978 – 2000



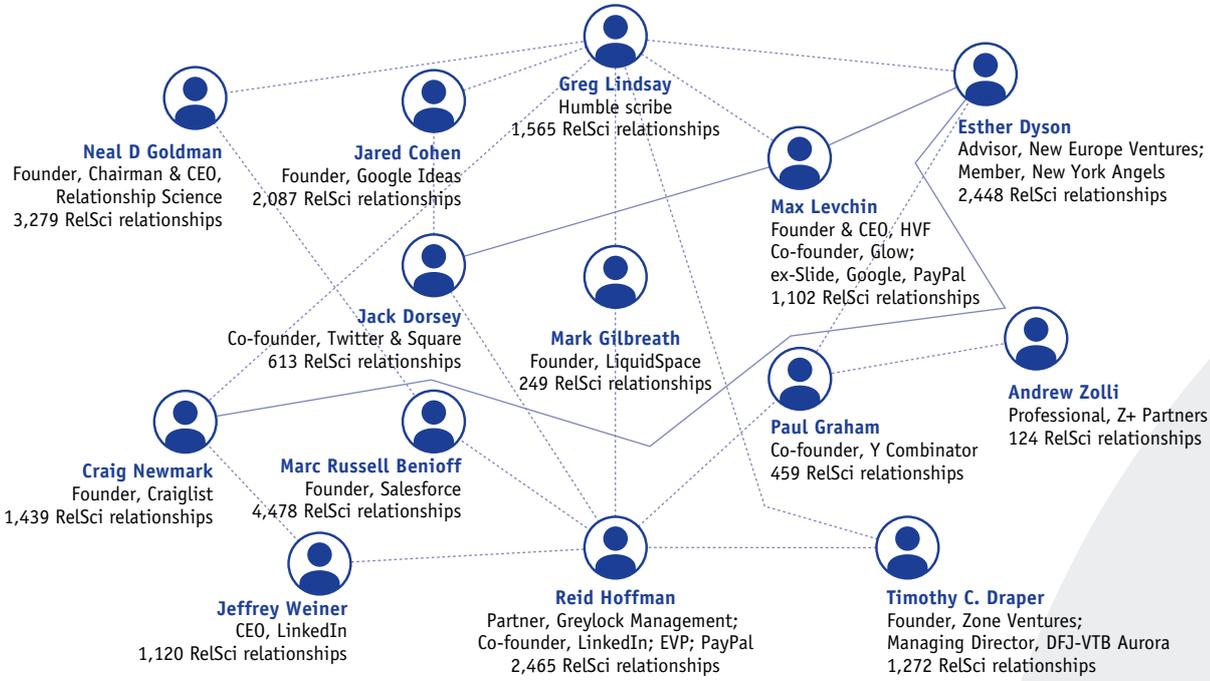
The next generation lives in social networks and is used to synchronous connections and interactions - a far cry from the binary, asynchronous, analogue world in most offices today. We will see a move towards unconscious connectivity and collaboration through synchronous solutions as this new cohort enters the workplace. And with social networks a new dynamic emerges. We can now map, model and visualise the real work that is taking place - the interactions, clusters and communities that are formed through email or communication. Rather than shape the office to reflect the historic organisational chart - the inert hierarchy of departments and reporting - we can accommodate the real work and groups that need to be together within the enterprise and beyond – the office can become a real-time resource reflecting the fluidity of the organisation and its processes, partners and people.



– the office can become a real-time resource reflecting the fluidity of the organisation and its processes, partners and people.



These people should sit together



And so we will begin to see physical social networks, as real estate collides with online experiences. And while today these will be ‘dumb’, tomorrow’s technology will know ‘who is in’ and will be able to provide location-based experiences within physical space. Geo-fencing technology combined with people, places and increasingly interests and knowledge or skills will open up a new paradigm - the building will engineer encounters, force or suggest the interactions between people who happen to be in the same time and the same place and who have a reason to connect. Buildings move from dumb containers to real-time business resources. And that culture can be based around new ways of organising teams and departments - agile, fluid, self-forming and dynamic.

The concept is close to relationship science or relsci – the ability to map who knows who in an increasingly complex world.

The concept is close to relationship science or relsci – the ability to map who knows who in an increasingly complex world. And this mapping of people and relationships can now be overlaid onto a building to create a new approach to accommodating people together – one that identifies the real or optimal clusters and adjacencies and puts people together for a reason.

Buildings move from dumb containers to real-time business resources.

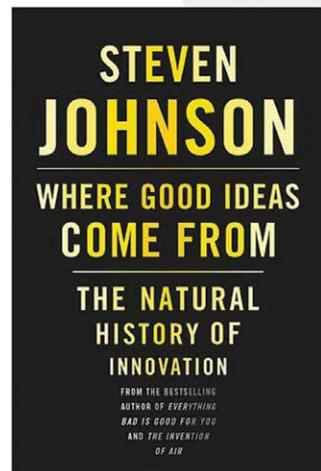
Where Good Ideas Come From

Most of the significant inventions of the last two centuries have not come from flashes of inspiration but from communal, multi-layered endeavour. Steven Johnson describes in his excellent book, that “innovation springs out of the ‘adjacent possible’ – the most inventive places are hives of activity where people get together and share ideas.”

So people need to work together in new ways. A workplace cannot just accommodate this but engineer it. It can become a catalyst for change and house

the real work that needs to be done: cross departmental lines of service, between traditional silos and with both employers and others, from contractors to outside agencies or consultants – the mixed teams that need to be together to do great work at speed.

Fast company behaviours require new typologies of workspace. Leaders can use workplace change and a move to a new physical space to catalyse innovation and introduce new behaviours as well as shape a new corporate culture – as Winston Churchill famously said: “we shape our buildings and thereafter, they shape us.”





Technology

The technology to achieve this vision is now real. We are witnessing a perfect storm with a number of enablers appearing to allow us to envision and achieve the new world of work.



The cloud is now taking software, data and processing out of the office and has introduced the concept of 'consumption economics' - pay per person or

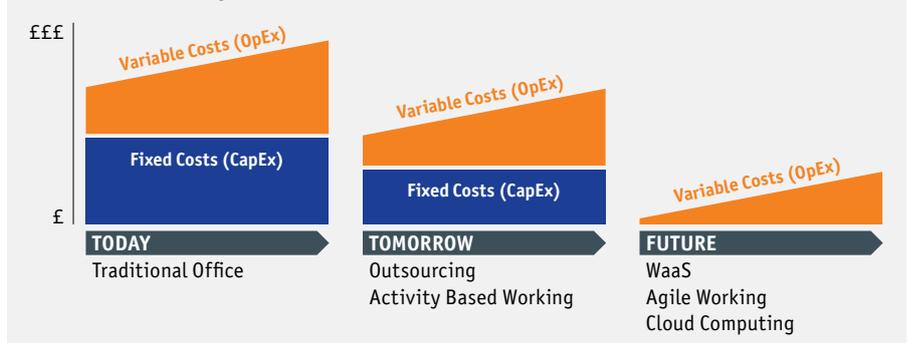
per use. Cloud solutions will inevitably lead to buildings having to house less infrastructure - and so they will become thin - devoid of the server rooms, data centres and networked PCs that dictated voids (risers and raised floor), power, floor loadings, cooling, fire suppression and so on. Buildings can become simpler, housing people and no longer be containers for equipment. They can also be cheaper.

And this will accelerate with two other attributes of the perfect storm - connectivity and new devices. People will increasingly carry a device with them that has the power to provision work wherever they choose to sit (or stand), either at a shared surface or connecting with specialised peripherals, equipment or displays in more boutique spaces. Users will have freedom to choose their work setting based on the task at hand, their preferences and who they need to work with. Their devices will increasingly be always on - connectivity will become ubiquitous, unconscious and synchronous - essential for cloud-based work - and, therefore, critical for a building to provide.

More than One

And people now have multiple devices with them that are both always on and run bandwidth-heavy applications. The workplace has to provide for this new demand. And it will only increase as new wearable technology explodes over the next few years - hundreds of millions of new devices that all require a connection.

The Road to Virtuality: Value Model



These connections are now sophisticated. Outside buildings, wireless broadband 4G and soon 5G networks provide connectivity on the move, while inside buildings, WiFi has been the predominant solution. On the horizon are new standards such as the IEEE802.11acWave2 and the 802.11ax which will see data speeds into the gigabits per second. When an iPad has no ethernet port and wireless speeds reach these levels, will there really be any need for flooding a building with structured cabling? The building's technology in effect becomes a fourth utility - a pipe that provides connectivity to the cloud. And for the first time, users will not feel like second-class citizens when trying to connect and work outside the corporate workplace - agility inside buildings enables a work-anywhere culture and experience.

Thin buildings will require less infrastructure and when this is combined with new ways of working, we believe that there is the potential to reduce real estate costs by up to 30% - both CapEx through a reduced requirement for the quantum of space and OpEx as churn costs vanish.

But in the future we see Software as a Service (SaaS) or the variablisation of technology costs beginning to remove the need for leased or owned office buildings - a trend that will lead to the



concept of Workplace as a Service (WaaS). WaaS solutions can already be seen as the explosion of co-working spaces and work clubs has witnessed. Companies provision work and allow people to share new third spaces paying a monthly membership fee rather than rent over a five-year lease. As new marketplaces such as Liquid Space open up opportunities to extend the

Digital Flow will witness a move from paper to screen as people start to work on documents together. Co-authoring and synchronous working (with their Jelly Bean on display) will necessitate a digital platform and herald the slow demise of paper.

traditional workplace, choosing a workplace will be like booking a hotel room or a restaurant table - new apps will emerge for provisioning work - both inside and outside the corporate space.

Alongside this perfect storm of the cloud, connectivity and new devices are a range of other enablers and innovations that will accelerate the demise of the traditional office. Unified Communications and Collaboration (UCC) technology will lead to the death of the desk phone - the need for a lump of plastic with twelve buttons, anchored down to a piece of wood has now passed - people want to call people, not their desk or room. And so communication moves from connecting places to connecting people virtually, enabled by software on any device. The death of distance has truly arrived. And these new platforms such as Microsoft's Lync, or Skype for Business, provide a new experience in communication, replacing just speech with a rich mix of media from instant messaging to video so that people can choose the most appropriate means to connect and communicate both within and without the organisation.

These new platforms provide the missing link for management by results - corporate presence - the coloured dot by a person's name that signifies their availability or state. And this corporate presence icon is what UnWork calls the Jelly Bean - a coloured indicator that shows that the individual is alive and kicking and at work - somewhere. Whilst the Jelly Bean until today has been determined by each user who sets green for available, red for busy and so on, it can now be automated and will change based on location, activity, calendar and preferences. It will also become contextually aware, presenting both Jelly Beans and people that are relevant to the individual in real time based on a project, activity or situation.

Jelly Beans will permeate all platforms and software, and so open up new ways to collaborate and connect. As we move to the idea of 'co-authoring' - working on documents simultaneously - the Jelly Bean will appear by each author's name and will signify and determine collaboration techniques. Digital flow in this way will also accelerate the demise of paper as work on screen determines a digital-only solution.



- the era of printing off an analogue copy and marking it up will vanish as the demands for synchronous work require more productive desktop real estate.



Rather than the sequential way we work today by marking up and passing on for further comment, the speed of business will increasingly result in synchronous working, with people collaborating in real time on documents. The Jelly Bean will play an important role in determining the ideal mode of communication and collaboration - if green, a live audio or video call or if orange, an instant message chat while red signifies the need for concentration.

And digital flow will necessarily mean work onscreen - the era of printing off an analogue copy and marking it up will vanish as the demands for synchronous work require more productive desktop real estate.

Here we predict the need for two screen working, and with digital flow it makes more sense for the screens to be portrait rather than landscape so that a full A4 document can be viewed without scrolling.

But as screens develop and the cost of larger monitors drops, we predict that large 28"+ displays will be used - which in the future will be curved and immersive. An ideal scenario is to use the laptop as a second or third screen - a digital dashboard on which communications, dashboards and the Jelly Bean will be displayed. And as the image shows, an ideal solution for agile working environments is a simple, one cable solution rather than a complex dock, with a laptop shelf and USB 3.0 connection



along with power. This can be linked to a hidden port replicator that provides not only the connectivity to peripherals such as keyboard, mouse, screen and USB recharge but also can use the unique IP address to provide location details and automate desk reservation.

In the future, we predict that the Jelly Bean will be even more pervasive. For example, you might read an article and if you are in a closed network with the author their name may change colour and allow an interaction in real time - permeable presence in an interconnected world. During brainstorming and workshops it is evident that the experts who can add value are not in the room. Here we predict that their Jelly Bean would show if they were available to join a live discussion.

Fast company behaviours will shape a different future. A Lync status light on an open plan desk can indicate whether a person is available or does not wish to be disturbed while at their desk. Jelly Beans will be physical as well. The Busylight is a physical way of sharing the Jelly Bean inside the workspace. Rather than having to wear headphones to shut out distractions and symbolise the need for privacy, we predict that desks, furniture and specialist spaces will display Jelly Bean status.

In physical space the Jelly Bean is also appearing on digital signage, led by the room and resource booking solutions such as Condeco, AMX, Crestron, Steelcase Wizzard and Evoko. These systems integrate into Microsoft's Outlook and, in effect, put the space or resource onto the network.

Physical space will change status based on Jelly Bean principles – today showing if they are free or booked/in use but tomorrow creating new opportunities for collaboration and support, from agile scrum errors in code to facilities' fault reporting.



Location-Aware Buildings

As well as connectivity, wireless can now be used for locating people. This is leading to a very different experience within the building. By using WiFi to triangulate the location of a smart phone, the user can be found on the floorplate and new location-aware experiences can emerge. This allows the building to connect with an individual, providing new options for way-finding or locating specialist space and services.

But the emergence of location-aware systems can create new opportunities for innovation. An MIT-incubated company called Sociometric Solutions provides active badges which track where people are within a building. The system also has an infra-red sensor so it knows who they are talking to, what direction they are facing and measures how many interactions they have during the day. They are using this to anonymously measure individual and team performance by comparing time spent in conversations, as they want to increase the number of interactions across the organisation.

Some companies are locating people in real time on a floorplate; they can tell who is in and what they are doing and are overlaying it with Yammer and other corporate

The Jelly Bean will be physical. Objects will show the status of people - so that they don't get interrupted in open plan - and also spaces and resources as the Internet of Things puts everything on-line.

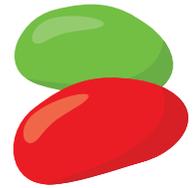


social media, which is leading towards a building that engineers serendipity. This is the beginning of Real Time Real Estate as social networks collide with property to create a new vision for the role of a workplace – one that knows who is in and more importantly what they are doing, their skills or knowledge and their availability with a view to creating a place for ideas, interactions and encounters that can't be left to chance.

Meanwhile a Swedish start-up called Flowscape has developed tools to measure where people are standing on the office floor and a view of the spaces and resources available. Here the Jelly Bean begins to permeate into physical space, where desks, rooms, equipment and resources will all display their status or availability.

Part of the vision for these workplace apps will be to create a real-time business, one where you can find someone within an agile working environment, locate a space or book a resource. But it will also lead to new ways of using the corporate directory, from finding an expert or person with a particular skill (that happens to be available and in your location, for example) to discovering through a system such as Delve that someone near you is working on a similar project or has done so in the past.

“Amazing things happen when you connect the unconnected”



Connecting the Unconnected

The Jelly Bean of things will be part of a paradigm shift in connectivity. Today the predominant focus is connecting people and their devices but as the so-called Internet of Things (IoT) or Internet of Everything (IoE) begins to shape and take hold, inanimate objects will be connected to the network not just to link to people but to themselves as well.

Connected real estate will see interactions between people and people, between people and objects and between objects and objects. Some of these visions will require a new approach to base build infrastructure and some will be implemented by the users of the workspace.

Real Time Real Estate (RETRE)

It is now forecast that the data sent from interconnected devices - inanimate objects - will exceed traffic from people on the web within a few years. New internet addressing (IPv6) allows billions of unique addresses and these are being claimed by an army of sensors, nodes, switches, thermostats, light fittings and other devices that want to be part of a connected world.

The IoT will bring a new paradigm to property - real estate becomes real time. And so connected real estate provides property directors and portfolio managers with a new view that ranges from performance, through security to occupancy management. Real Time Real Estate (RETRE) creates a paradigm shift - buildings move from being dumb containers to real-time resources that can be measured accordingly.

A building can have one converged infrastructure, around the internet protocol (IP), for everything. Cisco and Redwood/Commscope are now producing LED light fittings powered only over the ethernet. The Redwood system has in-built sensors in the light fitting that can tell you how many people are in the space; on the dashboard it will show real-time occupancy in all meeting rooms through the light fittings alone. Power over ethernet gives the ability to identify each individual luminaire and adjust the light temperature and lux level, giving phenomenal control of lighting. The Allseen Alliance will accelerate these concepts as new interoperable specifications allow an ecosystem to develop.

Developers can soon put in a base build infrastructure to allow a future IoT strategy so the occupiers of their buildings can benefit

from connected real estate. Future-proofing buildings will become a key differentiator of product for the future.

A connected building has a key role in sustainability, with dashboards where data from an integrated building system can show energy performance against targets. But in the future the building can become 'load balanced', hibernating spaces and rooms that aren't being used through linking occupancy sensors to room booking systems.

UnWork research finds that 40% of meeting rooms booked is not used, with 'no shows' creating huge inefficiency - future systems with automated check-in can put resources back on the system and penalise offenders. RETRE will also align the space with utilisation, for example, matching meeting rooms with the size of the meeting or suggesting alternative places or additional resources from food and drink to specialist technologies.

The IoT vision will lead to a very different kind of building in the future. Already in residential environments, technologies such as Google's Nest 'learns' and adjusts the temperature based on the outside weather and the family's preferences and behaviour. And while it is in the residential market at present, soon the technology will emerge into commercial properties as people will begin to expect to personalise their space and experience.

Other IoT futures range from IP-enabled door locks allowing only authorised people access to a confidential project room, to window locks that are also IP-enabled, so a property director can view every window or door in an estate and interrogate its current status. Even plant pots with small wireless tags can measure humidity and soil temperatures and report back data. Vending machines will be on the network, along with intelligent hand dryers that report back how many people have used a washroom.

This move to connected space allows a new paradigm for facilities management. Real-time data allows you to schedule cleaning based on use of a washroom, it allows the catering provider data on the number of people on site on a particular day to estimate how many meals to prepare, and even the vending machine supplier can interrogate stock levels and faults before coming to site.

The IoT vision will lead to a very different kind of building in the future.



Millions of new wearable devices will require connectivity inside buildings. Always-on, bandwidth heavy applications on portable devices will create demand for next generation in-building wireless networks.



Connecting the Connected

Another big decision for a new building is around short-range wireless, a family of technologies which ranges from WiFi right the way through to NFC (Near Field Communication), BLE (Bluetooth Low Energy) and RFID (Radio Frequency Identification). The domestic market is driving this at the moment but it will explode into the commercial market in the not too distant future. A short-range wireless strategy has to be developed alongside the need for great cellular coverage.

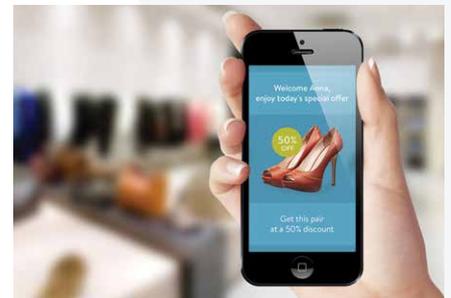
“Wireless is no longer a ‘coverage issue’ but is about the user experience, it’s about bandwidth and is a three dimensional puzzle,” explains Nigel Miller from Cordless Consultants, “people will expect ubiquitous connectivity and so, for example, having four/five bars on every network throughout a building is fundamental.” Real estate now needs the connectivity that people will demand to do business – every part of a building will need coverage including lifts, basement car parks and outside spaces.

New technology coming on to the market such as the iPhone 6 now has NFC built in and is the beginning of smart phones and future wearables being able to do a range of things. The phone can provide building access, follow-me printing and cashless vending and NFC is compatible with RFID. Rather than buying a new badge system for everyone, this may be the ideal solution for an integrated strategy.

A short-range wireless strategy has to be developed alongside the need for great cellular coverage.

Wearables are being used for transport payment systems and so there is no doubt that this can be used within buildings for a variety of functions. But the smart phone with its built-in security from PIN entry to fingerprint recognition will be a key ingredient in future innovation.

Retailers are now tracking the MAC addresses of everyone walking into their stores if they have their WiFi switched on and are broadcasting. The retailer can send a message to say hello and offer discounts. After checking in once, for example, through Facebook, as long as you have the same device with you, it will always send a welcome message, special offer or voucher. Recognising a customer in a retail store has huge implications for the experience of arriving at a building. Today’s reception experience is poor and impersonal – in the future, a client can be recognised by the device they are carrying and a reception concierge can have a screen pop up on their tablet with the customer’s picture, details of who they are there to meet and preferences such as a drink or newspaper. Integrating to a Customer Relationship Management (CRM) system allows the organisation to know who has entered the building and alerts anyone who has a relationship with that individual.



iBeacon, another technology that uses Bluetooth Low Energy (BLE) can be used in a similar way. Beacons are placed around a space in the building and they present a short-range broadcast which allows anyone with a mobile device to get information about the environment or a specific object such as a piece of art.





National Australia Bank's Social Media Command Centre is an example of the type of specialist space being created in activity based workplaces.

New Space for Collaboration and Teams

Jelly Bean working permeates not just individual work and physical space but also team endeavour.

Microsoft has partnered with Smart from Canada to launch Lync meeting that is a full suite for meeting environments combining the benefits of mixed media collaboration with interaction from any device. Rather than a formulaic room with a screen, Lync begins to allow all participants to connect synchronously from their own devices wherever they are – and their Jelly Bean demonstrates their state and, in the future, their location.

Taking things one step further is the idea of Virtual Presence, with the ability to have someone of human scale join a meeting with you. This is becoming a much easier concept with the rollout of Lync and the falling prices of screen technology. As big data and the need to visualise complex data rise up the agenda, a number of innovations will appear. One of the key ingredients will be large-scale, multi-touch screens that, in effect, turn complete rooms into collaborative spaces. Here the ability to interact with information and manipulate it in real time will accelerate decision-making processes and cognitive ability.

There is evidence to support the idea that latent memory has a big impact on team performance. Gathering in a vanilla meeting room with the minutes of the last meeting is a clinical approach to team endeavour: group meets in an anonymous space and then people return to their desks based in their departments to undertake their work. Compare this to an approach where the real clusters, teams and groups have been identified and accommodated together. People working together on a project, pitch or task can occupy team space, from war rooms to agile scrum environments. These specialist spaces accommodate a group



of people for the duration of a project or process. The room represents the activities undertaken, the knowledge is displayed and shared – evidence suggests that this creates latent memory – recall of the discussion, threads and iterations as well as the end results or decisions. And with latent memory comes displayed knowledge – both planned and unplanned – where people share ideas, thoughts, priorities or progress.

These specialist spaces accommodate a group of people for the duration of a project or process.

We are also seeing more specialist spaces for groups and teams appear in the workplace. Social Media Command Centres allow a focused team a dedicated space where they can monitor and react to global analytics on all their social media using a Salesforce Radian 6 platform - if there is a product getting negative tweets it goes red and they can deal with it immediately.

User-defined space is also in demand. At the d.School in Stanford University, people can adapt the space themselves and create the environments they want for a particular task or phase in a project. The user experience (UX) workplace will be very different as discreet activities, tasks, roles and functions require rapid changes, adaptability (fail fast requires a flexible workplace) and agility are velocity will be the buzzwords for success.

Visualising Big Data will become critical to success. Future collaborative spaces and surfaces demonstrated at Microsoft's Enviroing Centre in Redmond.



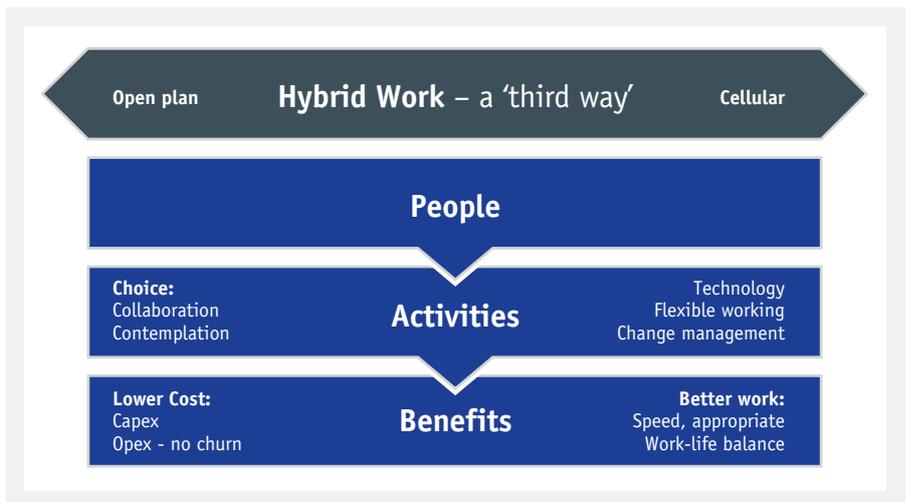


Real Estate

So what impact is there on real estate and the workplace of the future?

We propose to move away from the debate about desk sharing or hot desking and the endless debate between open plan and cellular offices. These are vestiges of yesterday's order – of an era where the office reflected status and hierarchy, where space standards set the parameters and where predictability and order were the predominant forces at play.

Instead there needs to be a third way, a new approach that we call Activity Based Clustering (ABC). This focuses on people first and their activities second, and looks at a range of discreet, specialist spaces based on particular tasks, overlaid by enabling technology and behavioural preferences.

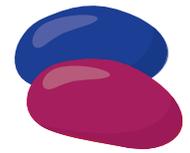


Child's Play

There are clear benefits to both individuals and corporations from an ABC approach and these can be monetised as an 'agility dividend'. From reduced costs and increased productivity to improved work-life balance and better carbon credentials, ABC provides a series of clear benefits and tangible advantages. ABC workplaces are the physical manifestation of Jelly Bean working – a heterogeneous, variegated and imaginative series of environments – places to work and no longer one workplace.

This breaks with tradition and moves away from the notion of one person being necessarily allocated one desk – but it does not necessarily mean that people do not have a home or place where they belong.





Breaking the Outdated One Person: One Desk

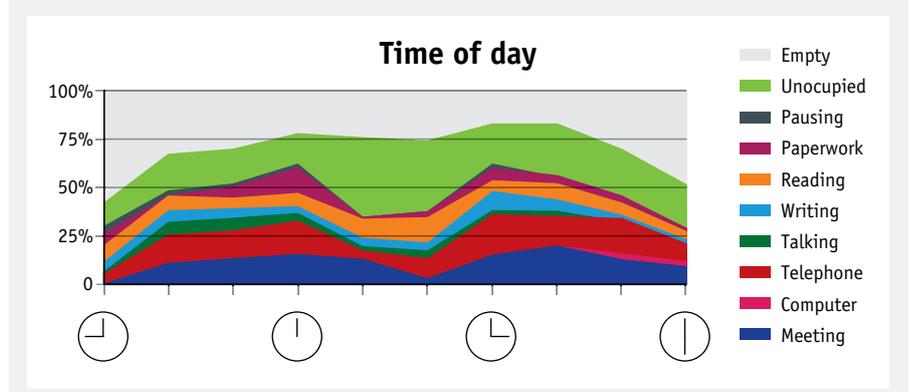
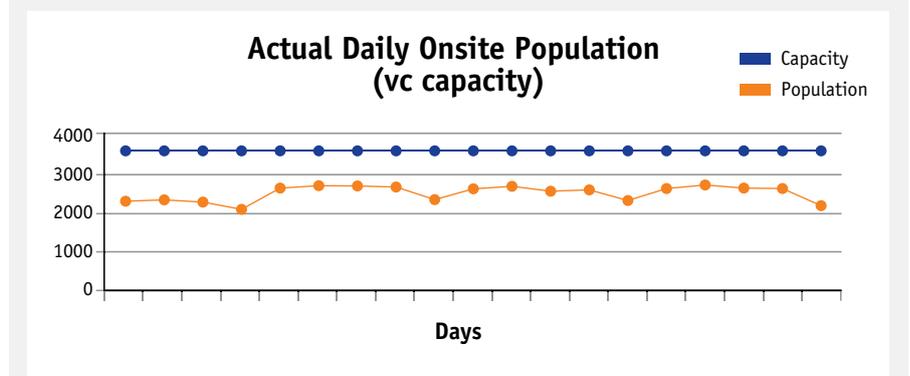
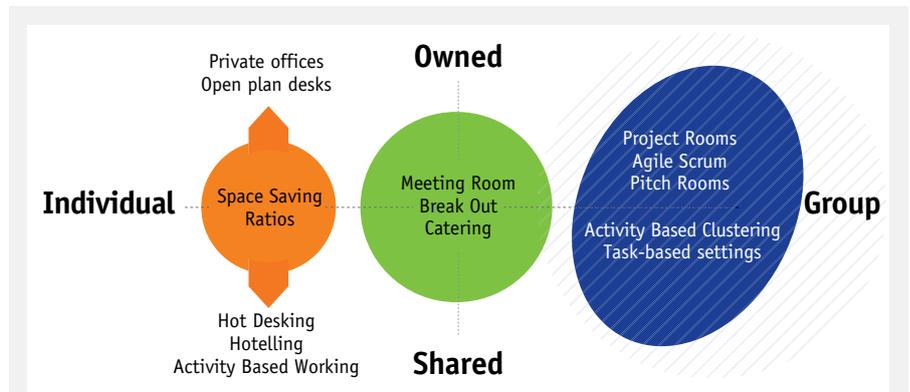
Activity Based Clustering recognises and celebrates the group, team or community as the predominant model for allocating space. It creates the work environments that people actually need for identified activities and load balances a building based on the number of concurrent activities that take place. It provides a workplace scaled for the average occupancy on any one day – rather than a desk for everyone on a ‘what if’ basis.

The classic office building that accommodates 3700 people normally has that number of desks or offices, and a few meeting rooms. But data that UnWork typically analyses shows that on an average day, no more than 2700 are ever in the building. So on any given day there are 1000 empty desks.

One of the findings that we have established through utilisation studies, is that on average only 47-48% of desks and offices are in use at a given time in an average office on an average day - so just over 50% of allocated space lies empty. And at the same time people complain that they can never find meeting rooms. Something has gone wrong. The average desk costs US\$18,000 per annum in a developed capital city, and so the cost of the empty space is extreme – for a building of 150,000 sq ft housing 1500 people at 45% utilisation, the empty space costs \$11m per annum and even at 70% utilisation, the cost of empty space every day is \$6m per annum.

So the ABC approach challenges this and changes the approach to provide a building that is load balanced to the real needs and utilisation of people.

There has been a headlong rush towards ‘collaboration’ as the panacea for all ills at work - team endeavour has taken priority away from individual focus and concentration. Why are groups so important? It’s evident that value creation will shift from individual to collective endeavour. And collaboration will be both ‘intra’ (or internal) and ‘inter’ – between companies and individuals as the rise of contingent workers and outsourcing and near-shoring continues.



But collaboration is not the only future. The need for flow or uninterrupted time is as important and in today’s open plan workplaces, it is almost impossible. The classic 4Cs of work – concentrate, collaborate, contemplate and communicate – articulate the need for variety and choice.

Tomorrow’s workplace should be heterogeneous, built on a foundation of understanding and celebrating people and their differences. Work should be mapped and physical space, enabling technology, behaviour, the user experience and atmosphere should collide to provide aligned solutions that enhance the individual and so the organisation.

Tomorrow’s workplace should be heterogeneous, built on a foundation of understanding and celebrating people and their differences.



Activity Based Clustering does just this. It recognises that we work in groups, teams or clusters and identifies these and gives them a home. But within its domain is choice for the individual based on what they need to do and the enabling tools - task driven and aspirational. The workplace becomes a canvas of space that can be influenced or adapted by its inhabitants - nimble, responsive and flexible. Systems now exist (such as Trampoline Systems) that are able to report email and connection flows within an organisation, showing true routes of collaboration and allowing teams and personnel to be clustered together. This now moves us away from working in business silos and makes the adjacent possible.

The best ABC space is designed to be appealing - it should pull - just as we choose spaces to eat and drink on the high street, we should exercise the same preferences at work. Different people thrive and enjoy different environments.

These spaces need to have not just innovative approaches to interior design, furniture and finishes but lighting and acoustics varied to create discreet zones that enhance the experience. Articulating spaces, through exposed services, changing floor levels, verticality, inefficient adjacencies and unusual circulation all create the unexpected; an anti-fragile environment that stimulates innovation - that engineers the serendipitous encounters through which new ideas and relationships are formed.

This is Activity Based Clustering (ABC) at work - a new paradigm for a new world of work. A dynamic, real-time workplace that load balances a building to reflect the real work that is taking place and demonstrates an ability to morph and adapt, providing the flexibility for fast company behaviours. Velocity at work. And in load balancing the space, there is a sense of energy - a pulse - all too often missing in the modern workplace that feels like a morgue. ABC provides the energy people need and, through choice of space, the alternative environments for recharge, quiet contemplation and flow - the uninterrupted work that people need to be creative.

So an agile workplace based on ABC principles ticks all the boxes:

- ✔ It provides a choice for individuals so that they can align their place of work to the task at hand, their preferences and people they need to be with
- ✔ It provides a more efficient property footprint, allowing up to 30% of floor space to be removed through load balancing a building based on the average occupancy on any given day - just in time rather than just in case
- ✔ It is a healthy building, putting wellness high on the agenda through movement and agility as well as good food and drink
- ✔ It aligns a business to the real work people are doing and creates new clusters based on communities and groups – the agile scrum mentality

And wellness or wellbeing of people will become one of the next big areas of focus for the workplace.

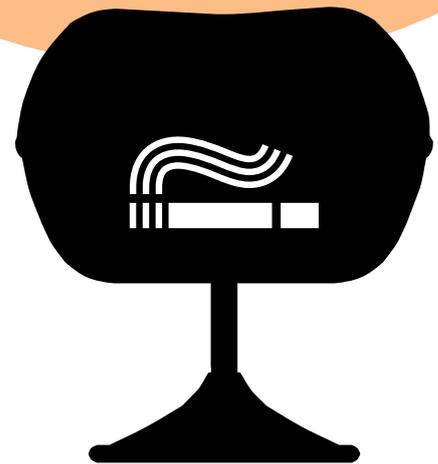
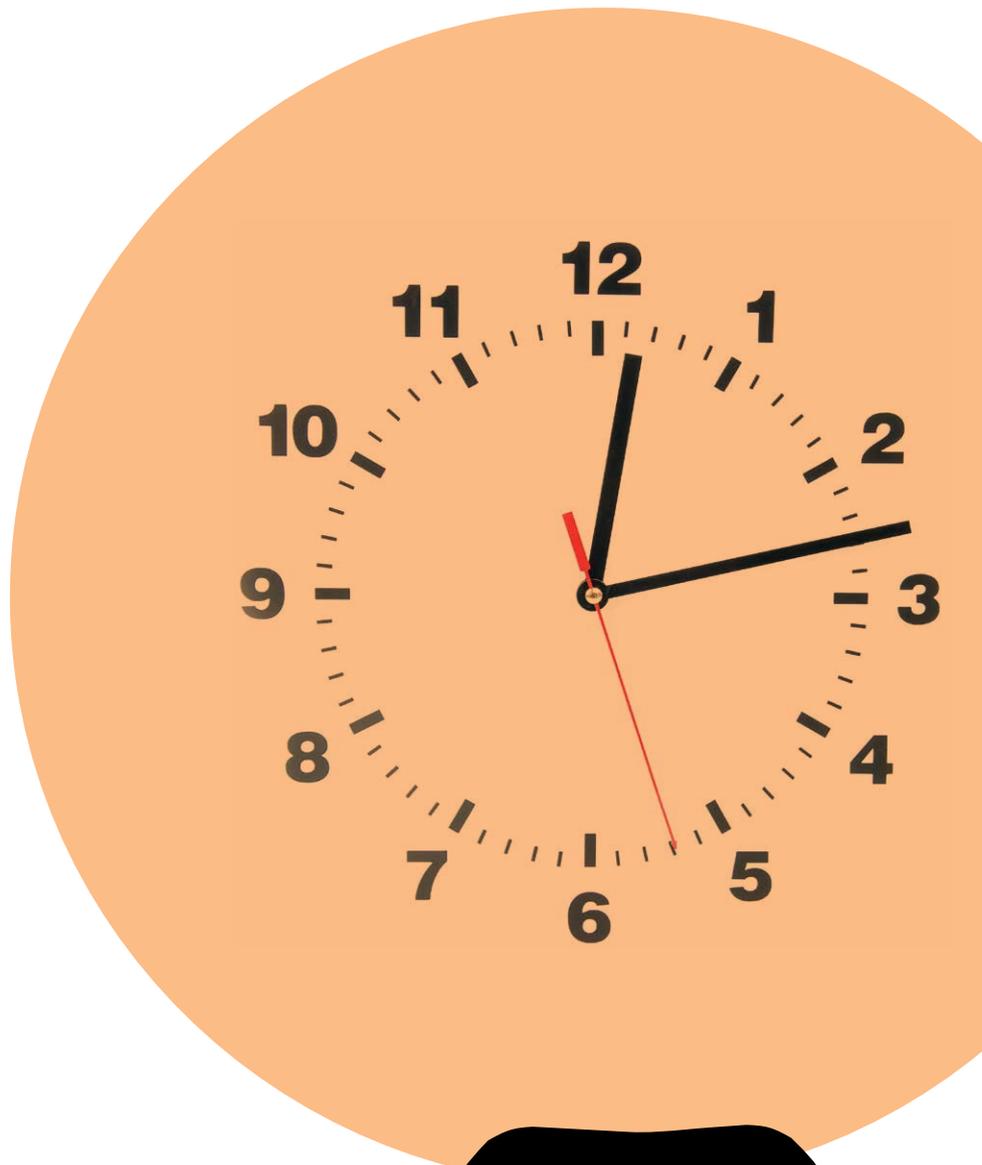
Is Sitting the New Smoking?

Sedentary working (we sit down for an average 11 hours a day), has huge implications for health, with direct correlation to obesity and so diabetes and other ailments. Giving people not only the ability to stand up but to also move around makes a huge difference in the health and wellbeing of the workforce. A healthy building can be just that. And wellness needs to also have aligned a new approach to food and drink in the workplace - no longer the staff canteen and vending machine but a new approach that places food and drink as part of ABW - changing not just the offer but the location and type of space provided.

An active building is a healthy building and so Activity Based Clustering encourages movement during the working day. With agile work and in-building mobility, people move between different spaces for each task and so increase the number of steps at work and calories burnt. Add in the concept of verticality and a healthy building can be achieved as part of the move towards a new world of work.

We predict an increasing blurring between work and leisure, but here there is a divergence of trends with some companies developing a workplace that provides lifestyle services from laundry and fitness to wellbeing and soon accommodation and leisure ... back to the paternalism that led the way in the last industrial revolution, whilst others see themselves as corporate citizens, inhabiting the urban core, being a part of the community and permeable to the city.

An active building is a healthy building and so Activity Based Clustering encourages movement during the working day.



The Future of Work

As Business Week predicted, the future of work is on everyone's agenda. It is being driven by the seven forces and the physical manifestation is the realisation of a different workplace in which to accommodate people.



Some of the innovation is being driven by the young entrepreneurs and start-ups that inhabit co-working environments. They have put their money where their mouth is to become a member of a work club or pay per use in an environment that normally breaks the mould of a corporate office.

The hub in London is one such co-working space where people create a place to work that is eclectic and raw – ceilings are left off the cost plan presenting exposed services and an industrial feel to the space.

And boundaries are blurring with a Capital One bank branch in the heart of San Francisco's financial district now turned into a community space, art gallery, Peet's coffee shop – and a bank branch. Above this now resides Capital One Labs – a digital workspace for digital natives. And we are seeing retail principles with different approaches to footfall and a focus on the experience, brand, food and drink as well as olfactory stimuli rising up the agenda.

The brand or narrative can be manifested through a workplace. At Unilever's Singapore building, the FMCG brands are made real – from the Ben & Jerry's ice cream parlour to the Lipton's tea café, a business can celebrate its brand values and create difference and advantage.

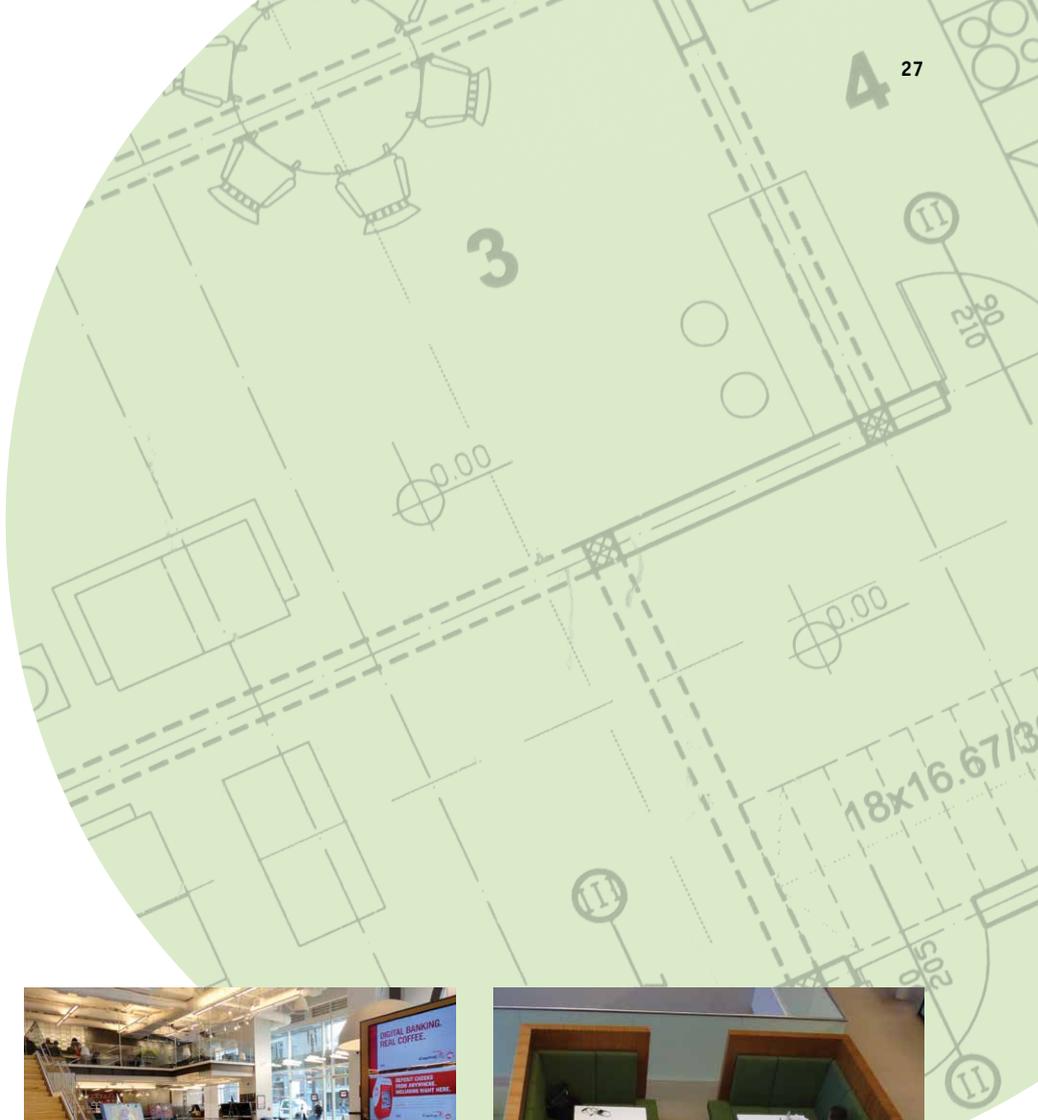


And food and drink are becoming essential ingredients for a workplace. Far from the old-style canteen, new approaches include coffee carts and pop-ups to add variety and interest in a workplace that needs to morph and change.

Rather than a traditional approach to a workplace with fixed desks and offices, a private equity firm wanted to create a home for the business where people interacted and where the 'resting state should be together'. An activity-based approach was adopted, with people moving from fixed PCs and personal storage to mobility and shared places for possessions and files.

A solution was created where entry to the office was through the top floor only, into a social zone where interactions and conversations as well as informal work took place. Wardrobes were provided for people's possessions and the space had a long Pizza East-style table with a large SMART board with Bloomberg on display. A fabulous kitchen anchored the space adjacent to a soft seating space and terrace. An airline lounge-style room was provided for more informal work.

The floor below was accessed through a staircase that was punched through the floor. People were directed down into the main work floor where open benches



provided a cluster of surfaces for work. This area was driven by the desire for imposed density to create a buzz and energy. Partners moved from private offices to using these benches. Everyone was enabled with a wireless laptop and a move towards less paper was achieved with scanning solutions and sharepoint.

For people who needed a larger screen and separate keyboard and mouse, 'cubbies' were provided where a laptop can be docked with a single cable. For concentration a library or 'quiet carriage' was provided – a phone-free zone. Separate phone booths and small studies and meeting places were part of the mix.

One of the findings in UnWork's study was that the deals that made the firm successful were hidden and people working on these transactions were separated. The origination process was made visible and tangible through four 'O Rooms' or deal rooms – a physical manifestation of the business process that drove success.

The Future of Space

Where next? Jelly Bean working will become automated and virtual as intelligent agents and personal assistants – meet Siri and Cortana – begin to enter the office. And we believe that rooms will start to listen to the conversations and content that is being discussed. Digital assistants will then add value by suggesting experts or presenting knowledge through Delve or similar repositories of so-called ‘digital exhaust’ – the incredible output of data that successful businesses will need to capture, harness and visualise for continued success.

Voice at work becomes important and so acoustics at work will be a key ingredient for future workplaces. This becomes all the more relevant with the forecast rise in video and adhoc video conferencing as people get used to seeing who they are talking to. But video will begin to do much more than present a face. Full-length video conferencing with eye contact, through immersive experiences with augmented and virtual reality will present new opportunities for interaction and collaboration.

Space will be aware. What is being said, what people are doing. It will become context aware.

Space will be aware. What is being said, what people are doing. It will become context aware. People will expect curated experiences, and they will want personalised environments that can adapt or morph as needed.

All this becomes possible as the Jelly Bean becomes the representation of individual status and preference. Choice and flexibility will result in a rich tapestry of work environments that cater for all tastes, activities and personalities. With a digital technology overlay that is increasingly both connected and intelligent but also thin and invisible, people will be able to move between task-orientated spaces, and group with the people they actually need to be with for work – fluid, dynamic space that fluxes with the company and provides the agility needed for fast company behaviour.



Conclusions

Making work human is an overriding theme of Jelly Bean working. We are entering an era where the traditional office is increasingly irrelevant.

The role of the workplace is to bring people together to do great things, but increasingly this can be through digital tools as much as physical space. Technology will soon allow us to interrogate big data to make decisions in new ways and we will need context and visualisation to enhance our intuition and our decision-making ability.

As Mihaly Csikszentmihalyi identified in his book *Flow*, we need different rhythms during our working day, different spaces for different tasks and importantly the ability to think and get into a state of flow – something that requires between 18 and 25 minutes of uninterrupted thinking time ... digital noise has to be put on hold.

Technology will become another utility – always available, always on. And so we see the workplace being similar – permeable, always there in one form or another and part of an ecosystem that drives a polycentric vision of the city in motion.

The Jelly Bean is the symbol of a new wave of innovation. It represents people so that they can be effective in their organisation and free to adopt alternative work processes, without the constraints of ordered, analogue work. Jelly Beans are digital. They exist in the cloud and will permeate everything we do, creating opportunities for new ways of working and connecting people as well as objects – they will enable new spaces in which people will choose to spend their time. People will be empowered – what colour is your Jelly Bean?

The Jelly Bean is
the symbol of a new
wave of innovation.



People are central to any future workplace – an activity based space creates a home for a group or community as at Vodafone in Amsterdam where people are celebrated and central to the philosophy that an office is a place for people and no longer a container for furniture.



Jelly Bean Working by Matt Harvey

With insincere apologies to Dr Seuss. Commissioned by UnWork.com for the WORKTECH conference

What fun we shall have, we shall all have such fun
In our Jelly Bean world. And we'll get so much done!

Said Manager One to Manager Two:
What is a Jelly Bean? What does it do?

Well...

It's a blob that can blink, it's a project detector
A link that can wink, it's a colleague connector

A tell-tale twinkling from illumined informants
An up-to-date inking reporting performance

And the shade that's displayed says what each of them do
There's a hint in the tint, there's a clue in the hue

It's a peer-pressure point, a magic marker
Two-way keyhole, nosey parker

It's a digital diamond, a pearl of low price
A blob that's as good as a wink – it's concise

It's an X marks the spot, it's a word in your ear
About who's doing what, who's far and who's near

But Manager One has a smidgen of doubt:
Your Jelly Bean Team are so widely spread out!

Flexible practice is all very well
But the practical fact is it's your job to tell

Worker from shirker and striver from skiver
Early adopter from tardy arriver

To keep tabs on your team and your team on their toes
You must herd them in buildings and line them in rows

There must be a minimum level of order
Why can't your Jelly Beans be more like Mordor?

One Bean to rule them all,
One Bean to find them
One Bean to bring them all
And in the Cloud to bind them

No! Jelly Bean working's not what you suppose
They are led by example and not by the nose

In bed, shed or bar room, hub, bistro or brasserie
The Jelly Bean Team are free range, not battery

The Bean Team don't need to be chivied and chased
Their Jelly Bean world is activity based

So the doing gets done, and its doing is seen
By means of the beautiful, mutable Bean

The Bean with the buzz that can bypass the miles
That can pollinate plans and cross-fertilise files

The chameleon Bean whose changes reveal
Who's playing for keeps and who's keeping it real

That's why we all dance to a Jelly Bean tune
And work by the light of a Jelly Bean moon

Watch Matt Harvey perform
the Jelly Bean Poem



<http://bit.ly/1wxAEHT>

What colour is
your Jelly Bean?



About Mirvac

Mirvac is a leading Australian property group, with an integrated development and management capability. Our investment portfolio, Mirvac Property Trust, has assets across the office, retail and industrial sectors leased to quality tenants including leading Australian and international companies.

Mirvac's integrated business approach means our spectrum of services spans the lifecycle of the project, from development, through to workplace design and fit out, leasing, property management and long term ownership.

Established in 1972, Mirvac has more than 40 years of experience in the real estate industry and has an unmatched reputation for delivering quality products and services across all of its businesses.

Our 'This Changes Everything' strategy will ensure Mirvac meets its goal of being Net Positive by 2030.

Further information can be found at www.mirvac.com



About UnWork.com

A consultancy that creates the ideas and business case for the new world of work

We have unsurpassed global knowledge and can share the 'art of the possible'

We inspire boards and partnerships and persuade people that there is a different approach

We collect data and gather the empirical evidence for the business case for new ways of working

We catalyse innovation creating new ideas and creative solutions

We look at enabling technologies and the drivers of change

We establish a more imaginative brief for a project and help you select the best team to implement

We understand people and manage their change journeys

We help you to innovate and change the way you work

www.unwork.com





Published by

Unwired Ventures Ltd
Workplace Innovation Centre
7 St John's Mews
St John's Road
Hampton Wick
Kingston upon Thames
KT1 4AN UK

Telephone +44 (0) 20 8977 8920
Email info@unwired.eu.com
Website www.unwired.eu.com

Unwired Ventures Ltd, its employees, the advisory board and the sponsors of Unwired are not to be held responsible for any losses, expenses or any claims arising out of any reliance on the information contained in this publication. Since most of the information in the publication has been provided by third parties, it requires further verification. In every instance an application is made it must be independently verified and applied to those individual circumstances by a suitably qualified individual.

The very nature of the information contained in this publication ensures that at the time of publication it may be outdated or superseded. No copyright or intellectual property is transferred or should be assumed and all images, photographs and trademarks remain the property of their respective owners. UNWIRED is a registered trademark of Unwired Ventures Ltd. No rights exist to reproduce this publication in any form or media in part or whole.