

White Paper



Business Drivers for Unified Communications in the Manufacturing Industry

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...these figures offer compelling evidence that organisations in the manufacturing sector should act swiftly to make a strategic commitment to UC

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Executive summary

The main purpose of Unified Communications (UC) is to enable workers to communicate more quickly and easily and, by extension, become more productive. UC solutions enable employees to make their own personal communications more efficient and effective; enterprises to promote workgroup and collaborative communications and also to innovate with new business processes to exploit the capabilities of the latest UC technology. UC has profound implications for the way companies operate, particularly when it is extended along the value chain to bring enterprises closer to their customers, suppliers and partners.

This report examines in detail the key industry drivers and benefits that are inspiring large scale enterprises in the manufacturing industry to adopt a Unified Communications strategy.

Savings can amount to many thousands, even millions, of dollars depending on the scale of the implementation and commitment. Amongst the largest organisations, we have seen quoted savings of €3.5m annually, \$10m over two years and even \$28m annually through the adoption of various UC solutions.

In the manufacturing sector, collaborative UC solutions have been used to great effect and have helped organisations to improve customer service, productivity and efficiency whilst reducing costs and waste. Collaborative techniques are frequently used to create virtual teams, both internally and externally, through UC. They often draw in partners and customers to manage Just in Time (JIT) scheduling and to maximise the exchange of ideas and innovation. Design teams no longer need to be located in the same office, or indeed in the same country, when collaborating on new products.

Taking a pessimistic view, we estimate that, for manufacturing companies in the Global Top 2000, that the adoption of UC could mean an average increase in profit of \$4.8m per company. That would be worth \$1.05bn to the sector as a whole. A more bullish estimate, based on the best reported gains from UC, would yield an average increase in profit of \$67.5m, which would be worth \$14.6bn to the sector as a whole—as shown in Table 1. However we expect that only a small minority of top performing companies would come close to achieving this level of benefit.

These estimates strongly suggest that companies in the manufacturing sector stand to make significant gains through a firm commitment to a UC strategy.

Manufacturing Industry	Minimum estimated benefit from UC (0.5% profit increase)		Maximum estimated benefit from UC (7% profit increase)		No. of companies
	Av. profit increase/company (\$m)	Total profit increase/sector (\$m)	Av. profit increase/company (\$m)	Total profit increase/sector (\$m)	
Capital Goods	3.5	230.2	49.6	3222.1	65
Chemicals	4.2	257.9	59.2	3610.6	61
Consumer Durables	6.3	367.4	88.7	5142.9	58
Household & Personal Goods	5.8	190.6	80.8	2667.7	33
	4.8	1046.0	67.5	14643.3	217

Table 1: Showing estimated increase in profit for manufacturing companies in the Global Top 2000 through the adoption of UC

All values shown in the table are correct to one decimal place

Introduction to UC and its benefits

UC aims to seamlessly link together the various business communication channels that normally exist in silos across most enterprises. This could include any mixture of telephony, conferencing, email, voice mail, unified messaging, instant messaging, video, call recording, mobile phone usage, presence management and collaboration across a variety of user interfaces and devices, including mobile.

UC promises to unify all such services reliably, securely and flexibly so that a user simply communicates or collaborates rather than struggling to manage the technology that allows them to do it. Given the fact that UC spans multiple types of device, unification is not a trivial task—especially when it involves intelligent features like rich presence; that is knowing where someone is, whether their device is available to communicate and even the most cost effective way to reach them.

The main purpose of UC is that it allows employees to communicate more quickly and easily and, by extension, become more productive. In its most basic form this might enable 'click to call' where a person clicks on a phone number in their address book or email application to make a phone call. In its more advanced state, UC might allow a group of geographically dispersed workers to participate in a video conference that also allows real time sharing and updating of data in a spreadsheet or maybe a business application. A further enhancement might involve the extension of business processes along the value chain to draw in customers and partners.

Importantly, the experience of early adopters shows that UC has much more to offer than just the commonly cited benefits of mobility and cost savings, although these are both key ingredients in the mix. Companies in varied vertical sectors are gaining advantage and significantly improving customer service through improved productivity and the collaborative capabilities derived from UC.

There have been many notable successes as companies have devised innovative new business processes around UC and/or integrated UC into their business applications such as CRM, workflow, workforce management etc. We expect this trend to gather pace and will soon have a major impact on the way most companies communicate and do business.

UC Features

The key components of UC are listed below, although not all solutions will necessarily include every one of these.

- Single point of administration
- IP telephony/soft phones and call management
- Presence (availability)
- Unified Messaging (fax, email, voicemail and, increasingly, video)
- Provision of enterprise communications capability on any device e.g. single voicemail any device.
- Single number contact
- Instant Messaging (IM)
- Conferencing—audio, video, web
- Application and file sharing
- Mobility, Fixed Mobile Convergence (FMC)
- Integration of comms with business applications/workflow etc.

Whether a UC solution takes the form of a standalone product suite or an integrated portfolio of applications, we would expect functionality to be offered in at least two of the areas listed above to qualify as a UC offering. Over time we expect the functionality on offer from different vendors to converge as their products become more all-encompassing in their capabilities.

By their nature, UC solutions also have a critical overlap with related, but distinct, areas such as call/ contact centre, groupware/workflow and business process integration.

Presence

Presence is, arguably, one of the most influential features of a UC system. It can transform a disparate selection of communications channels into a powerful UC solution. At its most basic level presence simply describes a person's current availability to communicate and their preferred mode of contact at that time e.g. phone, email, IM etc. It avoids wasted time trying to contact people who are unavailable.

As greater presence detail is provided, the user can quickly identify the best person to communicate with, based on preferred criteria such as their business role, as well their availability and the optimum or richest available mode of communication e.g. voice, video, IM etc. All this can typically be accomplished quickly using a drag and drop interface to set up the call or swap between different modes of communication and 'conference in' new people to the conversation.

Other useful options include availability management where a person can record their presence as unavailable, or define different levels of access depending on who is trying to contact them. Integration with desktop applications like Microsoft Outlook can enhance productivity, as status is changed automatically by the state on the calendar.

Presence also has the potential to be extended along the value chain to draw in suppliers, partners and key customers to make doing business much easier. Furthermore, location information can help reduce costs by routing a call via the most cost-effective channel, e.g. by using VoIP click to call rather than a more expensive mobile when a person is on-network.

A key challenge for presence management is the ability to show presence across mixed vendor PBX and hosted solutions.

Introduction to UC and its benefits

Implementation choices

It is not within the scope of this document to discuss UC technology in any depth; however it is worth being aware of the different implementation options that vendors can offer. Broadly speaking, there are two alternative approaches to implementing a UC system. Firstly, there is the more common DIY approach where an enterprise sources, builds and manages its own systems, usually assisted by a trusted vendor or SI partner. Secondly, there is the managed service option that is becoming increasingly popular with larger organisations that choose to outsource.

Build your own

When implementing their own UC systems, some firms start with a bottom up approach that addresses the core network, making it convergence-ready and, typically, start out with VoIP first then layer other UC applications on top. Others start straight away by running converged applications on top of their existing heterogeneous networks to gain early benefits from advanced UC collaboration tools.

The bottom up approach generally applies to organisations that have started out with an investment in a converged IP network, particularly those replacing an ageing infrastructure, or needing to consolidate a highly complex network for ease of management.

The top down approach tends to be more software-based, providing integration points with third party PBXs. It has most appeal to organisations that don't want, or need, to replace existing network equipment but do want to gain the benefits offered through UC applications. Top down solutions typically provide common services to a variety of third party PBXs and enable the existing infrastructure to be maximised without a commitment to a single supplier. It's an approach that works well for introducing UC pilots for specific workgroups as the commitment and cost of implementation can be fairly low. If successful, the pilots can be scaled up to provide a more rapid implementation than might be the case with a bottom up approach.

Generic business drivers

The most frequently cited reasons for adopting UC that we come across are to achieve cost savings, increase productivity and increase mobility, although each of these may be realised in different ways across different industry sectors. For example, in the manufacturing sector collaborative tools have been successfully adopted to speed product design and reduce time to market. Video conferencing and application sharing tools have enabled design teams who are geographically dispersed to work together effectively to speed the design process while drawing in feedback from customers and partners to improve the overall quality of the finished product.

Collaboration services—improved business process

In addition to cost savings, the availability of real-time, multi-media collaboration services anywhere the business needs them has overwhelming implications for the way companies do business. It can bring enterprises closer to their customers, suppliers and partners as well as supporting new business processes and practices. Improved collaboration through virtual meetings eliminates travel costs, enhances productivity and can enable more effective use of company experts' time etc.

Cost savings

Cost savings and lower overall Total Cost of Ownership (TCO), compared to traditional TDM only systems, can be derived through both convergence to a single IP network (a key UC enabler) and also by use of UC applications.

Replacing separate voice and data networks with a single merged IP network has proven potential to lower the TCO, for example, through reduction of PBX upgrades and leases; it can reduce, or even eliminate, leased tie lines and long-distance charges for site-to-site calls; and reduce the cost of voice and video conferencing by bringing these capabilities in-house rather than relying on expensive third party services.

Physical Moves, Adds, and Changes (MACs) for telephony equipment are costly, both in terms of IT resources and time. A converged network has the advantage of centralised administration that can make virtual MACs a real time and expense saver.

Savings are also accrued through the use of UC applications themselves, not just cheaper cost of ownership. As an example, the use of various forms of conferencing solutions can reduce or eliminate travel costs and free up personnel to work on other projects in the time saved. However, when key employees are forced to travel on business then, by directing their single number to an international location, a unified WAN can cost-effectively route their calls to provide savings. Calls routed to a hotel room or office on a local number will cost less than roaming charges applied to UK mobiles.

Further savings are possible for calls delivered to sites linked via a unified WAN. These will not incur call charges and there's also no charge for retrieving voice mail when on the move. The cost of callbacks are also less because messages go direct to the person, resulting in fewer missed messages to return.

Flexible working enabled by UC allows companies to reduce their need for office space and all the associated costs of maintaining fully serviced desks. Additionally, the improved productivity, although sometimes difficult to quantify, will also provide a positive return.

Productivity

One of the most important benefits of UC is enhanced productivity through removing human delay in communications by automating operations, or enabling multiple actions to be performed simultaneously etc. Collaboration adds further benefits of team co-operation and time savings. Since productivity is a key contributor to the overall profitability of a company, any improvement here will ultimately benefit the bottom line and improve the competitive performance.

For example, a key demand many industries are facing from customers is for a more personalised service. There are a number of ways that UC helps address this issue. One way is through the provision of single contact numbers and presence so that key employees can be contacted rapidly for quicker response and decision-making in dealing with customer queries.

Single number and presence also improve productivity by allowing co-workers to connect quicker and so speed resolution to their internal enquiries. When combined with collaborative solutions this adds further richness to the knowledge that can be transferred. Faster decisions mean deals can be closed quicker or qualified and new revenue opportunities explored.

Integration of contact centre applications such as Interactive Voice Response (IVR) and Automatic Call Distributor (ACD) can further enhance the customer experience if adopted with care. Additionally, integration with a CRM can provide screen-pop data to make the customer contact more personalised and effective.

Distributed workforce

IP network architectures are inherently location-independent enabling the principle of any device, on any network—fixed or mobile—anywhere worldwide. This foundation allows UC to support remote working and mobility so that workers are no longer chained to their desks and are free to pursue business opportunities from more locations, effectively extending the reach of the business.

UC also permits part time workers, home workers and flexible workers to effectively handle calls for themselves or their colleagues and be part of the company's incoming call strategy. A very effective mechanism for call handling is the teaming of smaller work groups. Users can be members of teams irrespective of location, device or network available to them. This increases productivity and customer satisfaction while enabling flexible working. Buddy capabilities, with alternative contacts available when the individual is needed or on leave, ensure that remote or mobile workers are seen as an integral part of the corporate team.

Generic business drivers

The adoption of a UC solution can also help firms situated in remote localities retain high-value workers, who are often difficult to recruit and retain, if they can telecommute and work flexible hours that suit their lifestyles.

Lifestyle

Its not just technology that is converging. Lifestyles are converging with work becoming 'something people do' rather than 'a place they go'. End users increasingly want to use the same device for both work and pleasure. UC can help through device consolidation, moving to smartphones and PDAs, which means fewer devices to manage and the possibility of a common UI across different devices, which should reduce training costs.

Flexible working practices, supported by secure access to UC applications, allows organisations to make great strides towards achieving a healthy work-leisure balance for their workers. Capabilities include the ability to register as not available when outside work hours, routing calls to alternatives etc.

Corporate and Social Responsibility (CSR)

One of the potential positive side effects of UC is that it could help reduce the carbon footprint, particularly for larger organisations. This would be achieved mainly through collaboration services reducing the need for key employees to travel to attend meetings in person. Clearly, for larger enterprises where executives and experts are called on to fly all over the world, the reduction in green house gases could be almost as significant as the cost savings. Additionally, the introduction of more power-efficient desktop computers with the multi core processors required to run client side video conferencing software, also multiplies the green dividend of moving to UC.

Disaster recovery/communications continuity

Location-independent phone systems provide resilience in the face of disaster. Single contact numbers and teleworking give improved communications and business continuity as calls follow the person, even if their main office is out of commission. Local line plant or PBX failure need not impact calls to individuals as they can route calls to another device, for example their mobile phone.

Driver	Issue	Benefit	UC feature
Cost Savings	Maximise IT investments	Centralised management, low cost MACs	Unified IP LAN
		Less cost for PBX/service	Unified IP LAN
		Accelerates M&A through integrating IT and comms systems	UC, Unified LAN
		Lower cost fixed and mobile telephone calls	VoIP, FMC, UM
		Reduced travel needs/costs	Conferencing solutions: web, voice, video, IM
		Bring conferencing capability in-house instead of expensive third party service	Conferencing
Productivity	Mobility	Helps extend the boundaries of the company to pursue business opportunities and improve customer service	UM, Mobility, presence
	Remove human delay	Presence, particularly, help eliminate the delays in identifying and contacting the right person	Presence, single contact number, conferencing, Web
	Collaboration	UC improves collaboration both within and outside the bounds of the company with partners and customers	Presence, single contact number, conferencing, Web
Disaster Recovery	Communications continuity	Location independent phone systems provide resilience in the face of a disaster	Single contact, mobility, teleworking
Lifestyle	Job satisfaction	Remote and mobile working with unified messaging helps establish a more satisfying work/leisure balance	UM, mobility, presence
CSR	Going Green	Reduced travel need/costs reduces CO ₂ footprint	Conferencing solutions: web, voice, video, IM
		The need for power efficient, multi-processor PCs and servers to run collaboration services, such as video, reduces CO ₂ footprint	Conferencing solutions: particularly video

Table 2: Generic drivers and the benefits of UC

Business drivers in the manufacturing sector

Introduction

The manufacturing industry incorporates a wide range of very different businesses with equally diverse products, for example power station turbines, toys, industrial chemicals, household goods, electronic components and so on. They all however share a common goal—to produce a saleable product, either for direct sale or to feed into the manufacturing process of a firm higher up in the value chain. The number of people employed in West European manufacturing has continued to decline, as companies automate their production facilities, or exploit cheap labour in the emerging economies such as China and Eastern Europe.

Other manufacturers, particularly those of high value, technology-intensive products, have chosen to retain their western manufacturing facilities and compete on the basis of quality, flexibility and productivity. Whilst labour is cheaper in the third world, productivity and quality is much lower. Others focus on higher value-added work such as product design and after-sales services. Customer services was once seen as a necessary overhead by manufacturing organisations, but many manufacturers now charge for technical support and asset management, so customer services has become a lucrative profit centre.

In order to remain competitive, manufacturing organisations must constantly strive to improve productivity and efficiency whilst reducing costs and waste. Manufacturers make significant investments in technology to automate their production facilities, and to help them manage their business. Automation not only improves productivity, but also helps to ensure consistent product quality, not easy in a large distributed organisation.

Collaboration—key drivers

There are numerous drivers within the manufacturing sector which have led to an increasing instance of collaboration and partnerships. This has enabled organisations to cut costs through reduced inventory holding, cut project delivery times and incidental expenses as well as improving product review cycle times. Collaboration with supply chain partners can also facilitate expansion into new markets, particularly the developing markets. Collaborative techniques are commonly used to create virtual teams, both internally and externally, through the use of email and workflow applications. For example, design teams no longer need to be located in the same office or, indeed, in the same country when collaborating on CAD models. There is clear scope for collaborative working in the manufacturing sector to be enhanced through the use of UC systems such as IM, video conferencing, data, file and application sharing and so on.

For example, a large manufacturing company with office locations on three different continents needed design teams in one country to be able to rapidly collaborate with those in another. The widely dispersed teams made co-ordination of meetings difficult and delayed bringing new products to market. These problems were overcome by the introduction of a collaborative UC solution which included IM, voice and video. As well as having the desired effect of shortening time to market, the UC solution was also reported to have significantly reduced travel costs (see case study below).

Manufacturers that do not collaborate closely with suppliers will need to carry excessive inventory or run the risk of lost production due to shortages. This will have a significant effect on costs and profitability. When developing new products they will be entirely reliant on in-house expertise and unable to draw on a wider resource pool and new ideas from outside. Products will cease to be innovative and leading-edge, adversely affecting sales and market share.

We'll discuss in the following sections how businesses in the manufacturing sector stand to benefit through collaborative tools enhanced with UC.

Productivity

A service-centric approach through customer relationship management

Manufacturers are continuing their strategic shift from a product-centric view, focussed on innovation and cost-cutting tactics, to one that also embraces a service-centric view focussed on customer service and loyalty. Collaborative and mobile features of UC can greatly enhance the effectiveness of customer interactions, particularly for field sales and service staff. A manufacturer and distributor in the consumer electronics industry whose field sales representatives work across the globe with customers and dealers, connected its remote sales force with a mobile UC solution. The solution included mobility, unified messaging and integrated VoIP which allowed calls to be routed to numerous devices simultaneously, including the user's laptop. The solution improved employees' access to messages, improved response time, and saved \$63,000 annually in licence fees compared to the previous outdated system.

Improving customer service and satisfaction

Delivering quality customer service is at the forefront of manufacturing where wide choice and the ability to change is the norm. Integration of UC to connect directly with service reps using channels such as IM, group chat, VoIP or video are all features which can be leveraged to enhance service levels.

A European aircraft manufacturer wanted to give personnel in support services a conferencing solution as a credible alternative to face-to-face meetings. This included web conferencing, IM and presence awareness. IM had a major impact enabling the support centre agents to work together with the engineers to diagnose and solve problems in real time. There was also greatly reduced costs and need for travel through use of the new collaboration and communication environment.

The growing need for collaboration in manufacturing

To remain competitive in today's commercial environment organisations are taking advantage of shared expertise, information and enhanced purchasing power. Successful collaborative partnerships can bring many benefits including: more efficient supply chains, slicker internal processes and faster time to market.

Business drivers in the manufacturing sector

A global consumer packaged goods company with 138,000 employees working in more than 80 countries mandated that 50 percent of product innovation and development must come from collaborating with partners and customers. The UC solution was based on a video collaboration strategy built around tele-presence using 300 videoconferencing rooms for collaboration including partner and customer sites. As well as speeding time to market other benefits included: some decisions are now made in minutes versus days and there has been significant travel cost avoidance.

Key issue: Knowledge Management driving conformity

The use of Knowledge Management (KM) techniques can significantly improve business efficiency and effectiveness by supporting employees in their search for information across the organisation. The priority is to enable knowledge workers to rapidly gain access to relevant content. A natural extension is to integrate KM with UC systems, including rich presence, to identify expert sources within the company.

A global manufacturer of automotive parts made a strategic decision to implement a communication and collaboration initiative to connect its employees across the world, so they could work together more effectively and provide more responsive customer service. The solution combined UC with a company-wide search portal. The company estimates the time saved by knowledge workers searching for information and people is worth \$7 million annually. There was an additional \$1 million saving through standardising on a single vendor solution.

Collaboration

The changing needs of the customer

Customer requirements are changing at a faster pace than ever before which drives the need for reduced product design and build lead-times in order to stay competitive. UC systems help organisations create innovative business and communications processes to support the rapid development and production of new products and so react faster than their competitors.

A global consumer products company operating in 200 countries successfully adopted a UC solution to significantly reduce the time to market for new products that have to be coordinated across the globe and with many partners. The solution included integrated voice, chat, web conferencing, with e-mail and applications. The company reported that it was able to grow its service offerings without growing its IT infrastructure and costs.

Just In Time (JIT)

Manufacturers are constantly seeking ways to reduce costs. One area of focus is the supply chain, where significant savings can often be made by streamlining logistics and reducing inventory levels. Using a demand-driven paradigm, wherever possible materials and components are not held in stock, but are ordered (or manufactured in-house) so that they will be delivered 'just in time' to support the manufacturing process. This invariably requires good communications and integration with key suppliers.

A global automotive supplier adopted a UC solution to provide seamless communications between its various locations, customers and suppliers. The system, which comprised unified IP telephony along with managed services, yielded savings by removing islands of communication and cutting telephony costs by around \$35,000 per year. The new system also provided the seamless communication required between locations, suppliers and customers to support JIT scheduling.

Product Data Management (PDM)/Knowledge Management tools

Manufacturers are producing a growing range of products, often with production taking place in multiple world-wide locations to highly detailed specifications. The use of PDM can enable manufacturers to increase the speed of development of new products by facilitating simultaneous engineering and by enabling specifications and designs from previous products to be automatically reused in the new design. Crucial to a successful PDM strategy is enabling the relevant people to collaborate to rapidly create and update designs, discuss modifications, share CAD models in real time and view rapid prototypes via video etc. UC has a pivotal role here.

A European manufacturer of customised printing machinery employing 37,000 people world-wide adopted a UC solution to facilitate collaboration between design teams and experts around the world. Key features included presence, conferencing and VoIP over a unified IP network. The main goal was to reduce the time taken to design complex, custom-made machinery from 24 to 18 months. This was necessary to compete globally. As well as reduced time to market through improved collaboration, the company has saved around €350,000 on the cost of voice services.

Key issue: supply chain optimisation

The increasingly competitive nature of manufacturing today means that manufacturing firms need to continually optimise their supply chains. A fully controlled supply chain and inventory will bring predictable product supply, increased customer satisfaction and an increase in profitability. Supply chain management depends on tight integration with JIT/ERP, CRM, PDM etc. UC has a vital role to play in speeding communications along the whole supply chain.

A global chemical manufacturer with over 40,000 employees and customers in 173 countries needed to standardise and streamline its collaboration with supply chain partners. A single UC solution providing IM and web conferencing enabled supplier negotiations, customer meetings and technical support assistance. The time taken to close deals with suppliers was cut from weeks to, in most cases, just a single web-based video conference.

Business drivers in the manufacturing sector

Maximizing investment in IT

Asset and resource optimisation to maximise Return on Investment (ROI)

As markets become increasingly competitive, a greater emphasis is being placed on management to control their organisation's assets effectively, which includes both IT and employees, whose productivity is key. UC is a crucial enabler of a more productive and efficient workforce. It has a foundational role to play in optimising and managing production schedules, shift patterns and demand variations (such as seasonal variations).

Here are some examples of how selected manufacturing organisations have made substantial cost savings through the judicious adoption of UC solutions.

A European auto manufacturer recently adopted a UC solution to enable a new mode of working. A special agreement with the unions offers technicians, engineers and other employees the opportunity to work from home for up to four days a week. This solution relies heavily on directory information or presence awareness for all channels of communication including voice, e-mail, IM, and fax. The company estimates it will save around \$27.7 million a year through lower demand for office space.

A US-based power equipment manufacturer adopted an IP-based UC system to replace an aging PBX and to bring management of the telephone system in-house. As well as being able to support remote teaming, the company realised annual savings of around \$48k through lower cost of ownership compared to the previous PBX system and the elimination of charges for conference calls.

A German automobile assembler introduced a collaborative UC solution to reduce the need for key employees to travel abroad for manufacturing training or to address supply chain problems. The company saved around \$400k on long-distance charges and other travel expenses. The UC solution integrated shared computers, IM, video conferencing, and VoIP communication.

Impact of globalisation

The opening up of China, India, Russia and Eastern Europe to global business represents a major opportunity for Western manufacturers. It is no longer possible for them to just concentrate on their niche geographical market as they face competition from established foreign competitors and, increasingly, from new entrants into the industry. Dynamic organisations that embrace the global marketplace will benefit from increased demand for their products, low labour costs combined with increased purchasing power to drive down component unit costs and increased budgets for selling, marketing and promotion.

In this global business environment, manufacturers must have the communications and IT infrastructures in place in order to penetrate new markets, benefit from low-cost components and labour, and attract investment from overseas organisations. UC has a foundational role to play in enabling manufacturing organisations to penetrate emerging markets and overcome the considerable challenges in terms of workflow and process management.

Case study—global manufacturing company

Company profile

A global manufacturing company with operations in North America, Europe and Asia.

The business situation

In common with many globally-dispersed manufacturing companies, the organisation in question needed research and design teams in one country to be able to collaborate and share feedback with teams in another. Co-ordinating meetings on a global scale was a severe challenge and could often take days to finalise. The situation was made more difficult as the chief collaboration tool was web-based but did not support sound or video and would not easily integrate with legacy video conferencing tools. Its limitations were magnified as the company expanded its operations, particularly through acquisition. An additional challenge was a restriction on the bandwidth available between offices based in Asia and European locations.

Taken together, these organisational and technical barriers were slowing the spread of creativity and hampering communications between members in key parts of the organisation. The result was that the time taken for new products to be brought to market was excessive, while certain employees were undertaking unnecessary travel to attend meetings.

Benefits

To overcome these problems the company replaced its outdated web-based collaboration tool with a software-based UC solution that provided a superior and easy to use collaborative environment. Additionally, the chosen technology solution was able to intelligently ration scarce network bandwidth according to user profile while still providing a full featured UC capability. The main benefits to the business were reported to be speedier collaboration through users being able to establish sessions rapidly and easily. This has resulted in a more streamlined information flow throughout the extended enterprise and reduced the time taken to get products to market. There have also been savings on travel time and the associated expenses.

The solution

The new solution allows users to collaborate using the most appropriate channel e.g. IM, voice, video etc and to easily swap from one mode to another. They can also share data and applications in real time. Collaborative sessions can be conducted using a choice of devices including PCs, laptops and traditional video conferencing tools to support the needs of the users who typically require five meetings a month with four participants in each meeting.

A pilot installation was up and running very quickly, in just two days. The main solution now supports 5,000 users and was configured with one main server in Europe supported by three other satellite servers. An intelligent network bandwidth manager balances service quality based on network performance and user profile to maximise the perceived quality of the service. Three classes of user were defined and authenticated using their profiles in Microsoft Active Directory. These were permitted to consume different levels of bandwidth in their collaborative video sessions—RDSI, ADSL 2mb and ADSL 512kb quality respectively.

The solution provider

This conferencing solution was provided using Dialcom's Spontania UC platform. Dialcom is a European company founded in 2000 and has been profitable since 2002. The company is headquartered in Herndon, Virginia with offices in Europe and Latin America and is backed by leading European and North American venture capital firms. To date, Dialcom has over 100 customers across a range of industries including finance, manufacturing and telecoms.

Dialcom's flagship product, Spontania, is a versatile software solution that provides Unified Communications services such as IM, VoIP and/or teleconferencing, multi-party IP videoconferencing, interactive file sharing etc. It supports a range of integration options with legacy equipment including endpoints from Tandberg and Polycom as well as various voice and video gateways and IP PBX's. Being a software-only solution, it allows customers to leverage their existing investments in legacy communications equipment while quickly gaining benefit from new UC enabled applications.

Summary of UC drivers and benefits in the manufacturing sector

Driver	Issue	Benefit	UC feature
Cost Savings	Teleworking	Teleworking allows virtual teaming of designers so they can work remotely. This saves on the cost of office space	Mobility, collaboration e.g. IM, VoIP, video, presence
	JIT	UC provides enhanced communications to support JIT scheduling which helps to deliver significant savings	Conferencing solutions: web, voice, video, IM, presence
	UC integrated with KM tools	Faster access to information gives competitive edge over rivals. Substantial time saving on finding information saves money	Conferencing solutions: web, voice, IM, presence integrated with KM portal
Productivity	Reduce time to market	Conferencing supports close collaboration with partners, faster decision-making and pooling of expertise	Conferencing solutions: web, voice, video, IM, presence, remote access
		UC streamlines communications along the supply chain; supplier contracts can be completed faster and delivery progress monitored more effectively	Conferencing solutions: web, voice, video, IM, presence, remote access
		Conferencing supports virtual design teams. Prototypes and CAD models can be viewed easily without global boundaries. Time saved on travelling means designs can be iterated and finalised faster	Conferencing solutions: web, voice, video, IM, presence, remote access
	Enter emerging markets	UC helps manufacturers penetrate emerging markets and overcome challenges of communications, workflow and process management	Conferencing solutions: web, voice, video, IM, presence, remote access
Customer Service	Meet changing customer demand	Collaboration tools allow companies to share data and meet changing customer needs	Conferencing solutions: web, voice, video, IM, presence, remote access
	Get closer to the customer	Mobility helps sales and service personnel provide a more personalised service	Mobility, UM, presence, remote access to applications
	Improve loyalty and satisfaction	Together, UC and KM can greatly increase the efficiency of knowledge workers and improve customer service	Conferencing solutions: web, voice, IM integrated with KM portal
		Service personnel can rapidly confer with experts such as engineers to quickly resolve customer queries	Conferencing solutions: web, voice, video, IM, presence, remote access

Table 3: Drivers and benefits of UC in the manufacturing sector

The bottom line

For many organisations in the manufacturing sector, a strategic adoption of UC has enabled significant productivity gains and efficiency savings that have sometimes been difficult to quantify in monetary terms.

In the following section we have made an effort to estimate the monetary impact of an increase in productivity and cost savings through the use of UC. It is based on the assumption that the profitability of a company is closely related to its productivity and expenses, so it's reasonable to assume that if there's an increase in productivity and a reduction in costs then profit will increase in some measure.

In our initial appraisal of the potential for UC to boost profitability, we have drawn on feedback from numerous actual implementations. It's fair to say that the degree of benefit derived from UC can vary greatly with the scope of implementation and degree of commitment. For those companies that have taken a company-wide, strategic approach we have seen greatest benefits. For some larger companies, annual savings have been reported in the millions, or even tens of millions, of dollars, including those in the manufacturing sector. The largest boost to profitability we have seen reported was seven percent.

Our estimates are based on companies in the manufacturing sector amongst the Global Top 2000, and have taken two differing views for comparison. The pessimistic view assumes a 0.5% increase in profit, while an optimistic view assumes a 7% increase. These are increases that would be expected through UC providing efficiency savings and productivity gains etc.

As can be seen from Table 4, the lower of our estimates shows that the average increase in profit for each company is \$4.8m, which would add around \$1.05bn to the sector overall. If companies in the sector could achieve a 7 per cent increase in profit, that would equate to an average increase of \$67.5 million per company, and \$14.6bn for the sector as a whole.

In reality, we expect most organisations to gain an increase in profit much closer to the lower estimate than our maximum, since our research indicates that companies gaining the maximum level of increase in profit from UC are the exception rather than the rule. Nevertheless, these estimates strongly suggest that UC has the potential to make a significant positive impact on the profitability of organisations in the financial industry.

The highest financial gains per company are to be realised in Europe and North America, where a higher proportion of manufacturing organisations are based, and where the companies are more profitable than in other regions, on average. Europe's consumer durables, particularly, were more competitive than North America where averages were pulled down by underperforming firms such as Ford and GM. Europe was ahead of most regions in each of the sub-sectors of capital goods, chemicals etc. This shows great potential for UC to help companies outside Europe in these sub-sectors to close the gap on their more successful European rivals. Also, there is a strong opportunity for UC to help European firms stay ahead of the pack.

The bottom line

Summary of estimated bottom line gains through UC

Manufacturing Industry		Minimum estimated benefit from UC (0.5% profit increase)		Maximum estimated benefit from UC (7% profit increase)		No. of companies
Region	Sector	Av. profit increase/company (\$m)	Total profit increase/sector (\$m)	Av. profit increase/company (\$m)	Total profit increase/sector (\$m)	
Western Europe	Capital Goods	4.7	90.0	66.3	1260.0	19
	Chemicals	5.0	84.5	69.6	1183.0	17
	Consumer Durables	10.5	157.7	147.1	2207.1	15
	Household & Personal Products	5.4	70.8	76.2	991.2	13
		6.3	403.0	88.1	5641.3	64
North America	Capital Goods	4.6	77.4	63.7	1083.6	17
	Chemicals	4.4	79.0	61.4	1106.0	18
	Consumer Durables	2.0	35.3	27.5	494.2	18
	Household & Personal Products	7.0	112.5	98.4	1575.0	16
		4.4	304.2	61.7	4258.8	69
Asia Pacific	Capital Goods	2.1	58.0	30.0	811.3	27
	Chemicals	3.0	56.9	41.9	796.6	19
	Consumer Durables	7.7	169.9	108.1	2378.6	22
	Household & Personal Products	1.8	7.3	25.4	101.5	4
		4.1	292.0	56.8	4088.0	72
Rest of World	Capital Goods	2.4	4.8	33.6	67.2	2
	Chemicals	5.4	37.5	75.0	525.0	7
	Consumer Durables	1.5	4.5	21.0	63.0	3
		3.9	46.8	54.6	655.2	12
		4.8	1046.0	67.5	14643.3	217

Table 4: Estimated increase in profit for financial companies in the Global Top 2000, with regional breakdown

All values shown in the table are correct to one decimal place

Summary

Many companies have adopted IP/unified communications with the expectation of reducing TCO through moving to a single unified network running VoIP. Savings over a traditional PBX system are typically reported at between four and forty per cent depending on the scale of the project.

However, it's not necessary to replace the underlying network in order to benefit from UC applications. Many of the real benefits from UC are derived through the creation of innovative new business processes that enhance the way that companies interact with their customers, suppliers and partners. Irrespective of whether the underlying network is pure IP or heterogeneous. The key point is to ensure that the network has the capacity to handle any increase in traffic due to the use of UC applications.

Organisations looking to preserve the investment in their existing network and PBXs would do well to consider a software based solution for providing their required collaborative UC environment. As well as avoiding the cost of replacing their network equipment, they can, potentially, expect to see the benefits of using UC applications much sooner, due to a speedier implementation. This route is also a good way to pilot a system for proof of concept with minimal up-front commitment.

Although many of the savings and productivity gains derived from a strategic commitment to UC are difficult to quantify in monetary terms, our estimates indicate that they can be substantial. According to our most optimistic estimates, the overall gains through a strategic commitment to UC for a manufacturing company in the Global Top 2000 could be worth as much as \$67.5m per annum, which works out at \$14.6bn for the sector as a whole. Our least optimistic view puts the figure at \$4.8m, which would be around \$1.05bn for the whole sector.

As can be seen, these figures offer compelling evidence that organisations in the manufacturing sector should act swiftly to make a strategic commitment to UC. A key ingredient for success will be selecting a trusted vendor/SI partner whose product roadmap and partner ecosystem ties in with the company's strategy for rolling out UC. Their chosen vendor/SI partner should also ideally be knowledgeable in the manufacturing sector with a track record of successful enterprise UC and collaboration implementations.

Further Information

Further information about this subject is available from <http://www.BloorResearch.com/update/985>

Appendix 1—research methodology

In this report we have made an initial appraisal of the potential for UC to boost the profitability of manufacturing companies in the Global Top 2000, as shown in Tables 1 and 4. For each industry sector we have estimated the average expected increase in profit per company and the total expected increase in profit across the sector as a whole. The estimates were based on the assumption that the profitability of a company is closely related to its productivity and expenses, so it's reasonable to assume that if there's an increase in productivity and a reduction in costs, through the adoption of UC, then profit will increase in some measure.

All estimates were based on financial standings of the Global Top 2000 companies as of February 2008 and were derived by calculating a percentage increase in profit for each individual company and then consolidating and averaging for each sector and geographical region etc.

The sources of data and the assumptions we made are given below:

We have taken two extremes for comparison. The most optimistic view assumes a seven per cent increase in profit attributed to the adoption of UC. This figure is based on the best quoted figures from actual implementations that our research has revealed. The least optimistic view assumes a modest 0.5% increase in profit. This figure is based on the lowest gains attributed through the adoption of UC. There is a wide variability between these values because the experience of adopters varies with the scale of the project, degree of commitment and the overall strategic objectives etc. Many organisations are simply looking to reduce costs through lower cost of ownership of their network equipment, easier management and lower cost of VoIP calls. Others, that have sought to integrate UC with innovative new business processes, have tended to achieve the greater benefit.

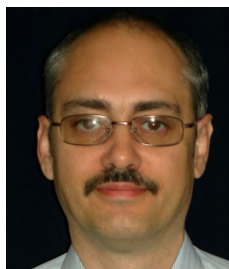
As the basis for arriving at our seven percent maximum and 0.5 percent minimum increase in profit we examined the details of over 40 case studies amongst the largest companies. Over 12 of these have been referred to in this report with the majority being global in scope but headquartered in North America or W Europe.

The findings from the case study material also suggests that the majority of organisations that make a strategic commitment to UC will achieve a benefit much closer to our lower estimate than the higher end. Further research into adopters' experience is required to validate these figures and arrive at a more refined estimate.

Bloor Research has spent the last decade developing what is recognised as Europe's leading independent IT research organisation. With its core research activities underpinning a range of services, from research and consulting to events and publishing, Bloor Research is committed to turning knowledge into client value across all of its products and engagements. Our objectives are:

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- Update clients' expertise, enabling them to have a clear understanding of IT issues and facts and validate existing technology strategies.
- Bring an independent perspective, minimising the inherent risks of product selection and decision-making.
- Communicate our visionary perspective of the future of IT.

Founded in 1989, Bloor Research is one of the world's leading IT research, analysis and consultancy organisations—distributing research and analysis to IT user and vendor organisations throughout the world via online subscriptions, tailored research services and consultancy projects.



Carl Potter Research Director - Communications

Carl is a senior IT market analyst with over 15 years experience in the industry. He has worked as the director of research/analysis with a global systems integration company and also as the head of research with some of Europe's leading IT analyst firms. He has conducted large scale, multi-national market research projects on behalf of IT and telecoms organisations and also authored numerous in depth, comparative reports on corporate IT. Carl now holds Bloor's brief for communications research.

Communications here refers to tracking the general area of enterprise fixed and mobile communications. This includes the network and communications infrastructure, telephony, VoIP and collaboration, plus issues related to enterprise mobility, fixed mobile convergence (FMC), unified communications and messaging. Carl also tracks developments in the mobile/fixed service provider (SP) industry in relation to how new service developments such as FMC, WiMAX, femtocells/picocells, dual-mode cellular-WLAN and so on will impact the enterprise.

Carl previously also worked for two years in middle management at a high street bank in the purchasing department. He has also provided industry sector consultancy in: finance, local government, chemical, shipping, logistics and aerospace.

Some recent projects Carl has delivered include:

- An Internet survey of the most senior mobile industry decision makers including CEOs, CIOs and marketing directors to canvass their views on the future of mobile Java data services.
- A mobile telecoms study involving 600 interviews over seven European countries and 10 industry sectors, looking at mobile data usage by corporate organisations in Europe.
- A study looking at business on the web including a survey of the European top 500 firms over six countries and twelve industry sectors.

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