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Blended Reality and the future of HP Printing

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Transformation is all around us these days: fundamental changes to how we work, how we design and manufacture products, how we approach healthcare and other professions. In this issue we will explore how our physical and digital realities are colliding and fusing to create new experiences, and transform industries and processes. At HP we call this synthesis of our physical and digital worlds Blended Reality. We are seeing early examples of this transformation in manufacturing, where traditionally rigid barriers between design, production and physical goods have become porous, redefining design-make-build processes so dramatically as to create a new Industrial Revolution.

The convergence of medical diagnostics and digital health are leading to the disruption of established structures, processes and partnerships in our healthcare system. In business across industries, conventional sales models are being transformed by the measurable influence of social media on customer relationships and purchasing cycles.

This issue explores each of those transformations, as well as how the print industry is thriving in the digital age, the journey of HP web press technology from production to the office, and how the HP Graphics Solutions Services team is transforming the customer experience. We are excited to release this issue to coincide with drupa 2016, the largest print media tradeshow in the world. The print industry has been going through its own major transformation, and this year’s drupa event will put a spotlight on the new and future technologies that are propelling the industry forward. HP will be showcasing our Multi Jet Fusion technology and sharing our vision for the vital role 3D printing and immersive computing will play in that future.

An immersive and ubiquitously connected world is all around us, presenting new advancements and opportunity every day. The time is now to leverage this momentum to create richer experiences and new ways of doing things.

Let’s shape the future together,

Shane Wall
Chief Technology Officer and
Global Head of HP Labs
The HP Innovation Journal is a celebration of HP’s culture of invention and innovation—blending the heart and energy of a startup with the brains and muscle of a Fortune 50 company. Each issue will shine a spotlight on the intersection of our people and their ideas; on the notable new technologies and experiences that we’re developing; and on the key industry trends that we will drive through innovation. In this issue, we are exploring how HP’s Blended Reality vision is breaking down the barriers between imagination and physical reality for 3D Printing and Digital Healthcare. We are also looking at the amazing transformations of the HP’s Graphics Solutions Business as they expand to new print applications, and how the Graphics Solutions Services team is transforming the customer experience. HP teams around the globe continue to engineer amazing in all we do and attendees at the drupa 2016 print media fair will be able to experience those colorful accomplishments first-hand.

We want to hear from you! Email hpinnovationjournal@hp.com to share your thoughts on the Innovation Journal.
3D Strategy: Transforming design and manufacturing

Creating a virtuous product lifecycle

by Edward Davis, Strategy Director, 3D Ecosystems & Multi Jet Fusion Printing, HP; Doug Warner, Vice President, Global Head of Strategy & Incubation, HP
Until the rise of the Industrial Revolution, hand-crafted one off design and manufacturing was the norm. Blacksmiths were both designer and manufacturer; each pair of horseshoes they crafted was unique, even when made for the same horse! Production was slow and things were made to order. Save for a few high value items like coffee, tea and spices, products were rarely if ever made in advance, inventoried and ready for sale. Supply chains for manufactured goods were piecemeal.

But that changed in the 18th century with the rise of the machine and the First Industrial Revolution. Textiles went from being hand-spun, to woven with a spinning wheel and loom, leading to faster production time with lower cost material. The introductions of the weaving loom, cotton gin, steam engine and factories to assemble product changed the very nature of how things were made.

Over a period of roughly 75 years—late 1700s to the mid-1800s—production became increasingly standardized. Each task from design to manufacturing and assembly was broken down into discrete functions. Henry Ford’s Model T took things to a new level at the start of the 20th century, gaining speed and efficiency with the introduction of mass production and factories. New materials and methodologies from metal casting to injection molding helped to produce most of the products around us today. With refined workforce and manufacturing practices, and the computer automation of previously manual labor-intensive tasks, things have continued to be produced faster and in larger quantity throughout the past century.

Despite all this, the basic design and manufacturing process hasn’t fundamentally changed over the past 100+ years. In fact, not only have the processes not improved but they’ve put a substantial strain on our natural resources, pushed production farther and farther from the consumer, and constrained design flexibility and customization.

Approaching the perfect storm

Over the next 10 to 15 years socioeconomic forces, advanced design and production innovation, and highly automated printing processes will intersect to create a massive transformation of design and manufacturing.

As we discussed in the last issue of the HP Innovation Journal, how and where we design, sell and manufacture products will continue to become both hyper-global and hyper-local thanks to a globally connected world with a diverse set of local requirements. Production will move closer to the consumer, with local 3D-print service bureaus throughout the world, thus accelerating product delivery, reducing carbon footprint, and simplifying logistics and inventory management. How those products move from design to production to those 3D printing hubs will become easier, smarter and faster.

Until recently we’ve been designing products for the 3D world in which we live, using 2D design and compute tools. We’ve been largely unable to bring our physical inspirations into our digital design process. Sprout by HP marks a first step to overcoming that obstacle, enabling us to bring 2D and 3D objects directly into our product design workflow—allowing designers to manipulate and work with those objects using their hands—seamlessly blending our physical and digital worlds.

Democratizing design and manufacturing

Ultimately the success of this end-to-end transformation will rely heavily on the printing of the final product. With 3D printing comes the move from the traditional manufacturing process to additive manufacturing. In the simplest of terms that means rather than manufacturing mostly 2 dimensional parts and assembling them together to make a product, you add layers of material thus building a product from the ground up with minimum or no assembly and more dimension.

With the introduction of HP Jet Fusion 3D printers being showcased at drupa 2016, based on a disruptive HP Multi Jet Fusion technology, new levels of 3D production speed can be achieved.
at reduced operating cost, for parts which offer an unprecedented combination of both fine detail and end part strength. End part production requires a seamless hand-off between the design and intended printer or information can be lost, and the design intent and quality expectations may not be met by the printer.

3D is more than competing for cost and speed optimizations of the same product. The true potential of 3D is realized when one can develop products which cannot be manufactured today. The seamlessness of the interface between design tools and 3D printers becomes even more important as our future printers enable multiple properties within one object, enabling changing colors, textures, transparency, strength, elasticity, and more.

Imagine an industrial designer, who could tell the printer which contrasting colors and textures to apply to the knobs of a car, while the mechanical designer could define different levels of strength and elasticity to the same part, all while the design tools assure that these design intents can be printed. Enabling professional designers to easily specify the design intent that takes full advantage of the voxel printer, the first step towards the transformation of manufacturing and ultimately towards the democratization of design.

For this to happen, the printer’s capability needs to be communicated upstream from the design tools to the designers. This will also require that the design software and the printer speak a common and enriched volumetric language that can be translated into volumetric pixels or voxels at the printer.
HP’s Blended Reality vision for 3D printing

But the end to end journey doesn’t end with the printed product. Longer term, by embedding tracing marks and sensors into the product, we’ll also be able to track every step of a product lifecycle from initial 3D object scan, to design, through production, quality measurement, delivery, and real-world use. This will provide in-lifecycle information to improve the design and fabrication of future parts. This moves the entire manufacturing process seamlessly from physical to digital and back to physical, creating what we at HP call Blended Reality.

Imagine the impact this continuous improvement cycle could have on industries and our lives. Artificial knees, hearing aids, and heart valve replacements would be improved and fine-tuned based on actual usage. Airplane and auto parts could be modified based on travel patterns and weather conditions. Sports apparel and equipment could be customized based on performance and use.

This type of transformation will allow us to return to the artisan roots of yesteryear, while pioneering a new wave of custom manufacturing around the globe.

• Unleashing the imagination of designers in ways never anticipated.

• Moving production locally to where it makes the most sense, making better use of resources (good for the environment) and transporting goods over less terrain (also good for the environment).

• Building intelligence into the manufacturing process that enables products to continually improve.

The transformation will allow inventors to imagine and print objects which cannot be designed and manufactured today.

The possibilities are endless to keep reinventing.

Learn more: http://bit.ly/IJ3_01

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**Rapid medical orthotic design and print**

Designers can create customized, flexible, strong and light 3D-printed products; Images courtesy of Invent Medical

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**The true potential of 3D is realized when one can develop products which cannot be fabricated today.**

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Edward Davis is Strategic Director for 3D Ecosystems for HP. He has been involved in successfully starting up several new businesses for HP, before leading the invention of HP’s Multi Jet Fusion technology.

Doug Warner is Vice President, Global Head of Strategy & Incubation at HP. He began his career at HP as the Director of Strategic Development, Digital Imaging.
Seeing in real-life is believing
Print in the digital age
by Mike Salfity, Global Head of Graphics Solutions Business, HP
If you’ve ever wondered where print is going in the age of digital, then just look around at all the printed materials, in all their various shapes and sizes, which come into your daily life. Through mindful observation, you can see for yourself where print used to be and where it’s headed.

The effects of the digital age on print are all around us. Printed invitations used to be a significant part of many print businesses but today few events send out fancy invitations—it’s all e-mails, electronic invitations and Facebook events. A large number of user manuals have been replaced by PDFs or webpages. Good old fashioned newsprint is now accessible electronically via your smart phone.

Despite all of the above, print is still very much a part of our lives. A visit to a shopping mall might include seeing lots of oversized banners, large in-store high impact color posters and custom wallpaper with photo quality images. Soft drinks and potato chips can be purchased with unique “customized” packaging, while household electronics now arrive in full-color boxes, in multiple languages and using high-resolution photos. On the way home from the mall, the road is full of buses and trucks wrapped with advertisements from leading brands using eye-catching high resolution vehicle graphics.

The relevance of print relies on its ability to trigger emotions and reactions. The demand for print has changed the way content is created, digital and traditional analog offset printing presses are no longer suitable. That is why HP is transforming the Graphics Business, by taking digital content and leveraging it across a diverse cross section of print media including: large banners, chocolate boxes, bus wraps and personalized invitations to car shows. The future of print is digital and HP is a leader in digital print innovation. For the last three decades we have introduced new technologies across a wide range of print applications.

The new era of print can already be seen all around us—vivid colors, striking images in all shapes and sizes—all resulting in an emotional response that only impactful digital print can evoke. Print will continue to co-exist with online media providing consumers with a “full-sensory” experience including the physical elements only print can provide.

This is good news not only for the print industry, but for brand owners who can engage with their consumers in new and innovative ways, print service providers who can handle more complex jobs, consumers who have a more memorable experience, and even the environment as waste is reduced by only printing what is needed using eco-friendly inks.

From small copy shops to large box makers

HP’s technological leadership and vision resulted not only in commercial success for our printers but to improvements in quality of life for both print practitioners and consumers.

Here are a few examples of how the HP Graphics Solutions Business is overcoming preconceived notions about print in the digital age and leading the print industry across a broad range of industries, customers and applications.

HP PageWide XL means opportunity for service bureaus and copy shops

This super-fast compact printer is changing print economics and creating new opportunities for print service bureaus, photocopy specialists and in-house print operations. Simply put, PageWide XL prints more jobs, in black-and-white and full-color, at lower cost with faster turnaround times—than was previously possible.

One of our first customers in Asia told us that jobs that used to take all night could now be done in a matter of hours. The result—the boss could now go home to be with his family instead.
of supervising the job on the shop floor—a real quantifiable improvement in quality of life.

**HP PageWide Web Press T1100S transforms high-quality corrugated printing**

On retail shelves, corrugated boxes are literally meeting consumers “face-to-face”. While this is driven by today’s demand for more vivid, eye-catching packaging, it is also supply chain economics that requires printing short runs, multiple versions with super-fast turnaround—all with low to zero inventory.

The HP PageWide T1100S is enabling the way brands reach consumers through impactful, relevant and high-resolution images. Retail boxes now require high quality engaging graphics representing a significant growth opportunity for the digitally-enabled corrugated supplier.

**HP Indigo 12000 Digital Press changes the meaning of commercial printing**

The HP Indigo 12000 Digital Press has the potential to replace traditional “offset” printing. Digital printing is the only way to deliver to customers exactly what they want in the new era of communications. This includes printing different types of jobs, on a wide range of media, using high-quality images—from flyers, to photobooks and point of sales materials.

This is not surprising as the HP Indigo 10000 series is one of the leading digital presses in commercial printing with millions of pages produced every week. Based on HP ElectroInk technology introduced back in 1993, this digital press enables use of special inks, custom colors and varied print materials that improve quality and consistency to deliver the emotional response demanded by international brands.

**HP Indigo 8000 Digital Press lets digital label printing go mainstream**

Just look around the super market or the pharmacy and you will understand why packaging is seen as the next big frontier for digital print.

HP Indigo started the digital revolution in package printing and has now become the industry benchmark. Advanced automation and sophisticated color matching make it fast and easy to provide leading brands with the extreme accuracy, consistency and repeatability they require across a broad range of package types and sizes.

Conventional flexographic label printing requires time consuming plate creation and mounting. Since it is an analog process using fixed plates, it is most suitable for printing tens of thousands of copies of the same label. This works fine as long as the market is satisfied with limited changes to label design and retail brands are willing to warehouse large quantities of excess labels required to make the flexographic process cost effective.

It does not, however, answer today’s demand for changing designs, multiple versions and fast turnaround on exact quantities. Only digital printing provides an answer for modern-day label printing challenges. Demand for short run lengths, integration of personalized designs and multiple product versions can only be printed cost effectively using digital print solutions.

The latest HP Indigo digital label presses are so fast, that they can bring all the benefits of digital print combined with mainstream speed and reliability. In some cases, this impressive

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1 GSB Market Share Report IDC Tracker Q4 2014

In Israel, Diet Coke is embarking on a fun new packaging stunt, using HP Indigo digital printing technology to create millions of completely unique labels.
development can actually eliminate the need for legacy flexographic equipment, potentially making a huge impact on the industry.

With faster speed and longer run-lengths, one of our customers commented: “With the HP Indigo 8000, I can now shut down my parallel flexographic production line and combine it all into a single cost effective digital workflow.” This is just one more of example of how HP is helping their customers improve their print businesses.

**Latex technology transforms sign and display printing**

Whether it’s conferences, exhibitions, airports, hotels, stadiums, shopping malls or even ski slopes—large outdoor banners now play a daily role in our lives. On the street, buses and commercial trucks wrapped in brand colors and updated advertising campaigns are seen on a regular basis. High-end hotels, restaurants and offices now feature custom printed wallpaper based on high-resolution images or unique graphic designs.

These are all part of the sign and display segment of the print industry. These applications require wide format printers and ink durability in any environment including indoor, outdoor, cold rain and hot sunshine.

These requirements are not easy to satisfy which is why many wide format print vendors resorted to using solvent inks. While they may hold up well in bright sun and pouring rain, they are also based on toxic substances which are harmful for the environment—and more importantly the press operators themselves. On top of that, for health reasons, solvent-based inks cannot be used in public areas such as restaurants and hospitals.

HP first introduced Latex technology in 2008. Its water-based solution was revolutionary in that it could potentially do away with the negative effects of solvents on people and the environment. In addition the excellent print resolution, sharp colors and proven indoor/outdoor durability earned HP Latex an excellent reputation among sign makers. Eight years later, Latex has become a de facto industry standard with over 30,000 installations worldwide.2

Our continued development of Latex technology has a direct impact on customers and their clients. Removal of solvents is good for the health of press operators, while enabling applications which were not previously possible.

A great example is Sant Joan de Deu Children’s Hospital in Barcelona, Spain. As in many hospitals, the radiation department is located on a dark and drab basement floor of the building. Nurses in the children’s cancer ward often needed to use sedatives in order to make it comfortable for kids to undergo radiation treatments in this harsh environment.

This situation was reversed with the help of HP Latex print solutions. Research indicated that a fun and secure environment could change a child’s radiation experience and their attitude towards treatments.

Using a team of top designers, HP Latex printers were deployed to create rockets, planets and stars which were then applied to the walls, ceiling and even the equipment in the radiation room. Overnight it was transformed from a dark depressing inner place into an exciting play area in outer space. The result was a vast reduction in use of sedatives and a more positive experience for kids in a very tough situation.

**Meaningful transformation**

When we look carefully we can see that print has never left us, it’s just taking on new forms.

With a breadth of solutions ranging from detailed and sophisticated labels to full color print on outdoor banners and corrugated boxes, HP is providing digital print leadership on the ground across a large range of industries and applications. Together with our printers we are helping to drive the latest print innovations in the digital age.

Technology decisions we undertook decades ago are now impacting the print industry across multiple applications areas. In order to make this meaningful, it is not just about the technology but also developing solutions from file design to printing and finishing with partners for ultimate brand and consumer satisfaction.

Historically, offset and flexographic printing have made a tremendous contribution to the industry... but that era is now ending. For the first time ever, the largest booth at the drupa exhibition—the biggest show in the print industry—has been taken by HP—a digital print solution manufacturer rather than a conventional offset press vendor.

While the current commercial success of our customers is important, we are also dedicated to helping the entire industry thrive in the digital age and improve quality of life—for those who create print and those who benefit from it.

This is what drives HP to continuously redefine print possibilities and transform the industry day after day.


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2 Based on IDC market research August 2015
FEATURED ARTICLE

Blended Reality for life

The convergence of microfluidics, commercial mobility & compute technologies for new applications in healthcare

by Dr. Ali Tinazli, Senior Director, Global Head of Healthcare & Life Sciences Strategy, CTO Office, HP; Dr. Manish Giri, Technology Strategist, Healthcare & Life Sciences Systems, HP; Dr. Paul Benning, HP Fellow and Chief Technologist Imaging and Printing, HP
What will our future look like? Blended Reality, the fusing of our physical and digital worlds, is a uniquely promising value proposition for 3D print applications.

Blended Reality vision for digital health

Blended Reality is a versatile concept that can be extended from the physical and digital worlds to the chemical and biological world. In the convergence of healthcare diagnostics and digital health, it can play a fundamental role: the transformation of human biology, real-world parameters into digital data to obtain contextual health information and enable personalized drug treatments. The fusion of microfluidics, edge computing with diagnostics, digital health, big data, precision medicine, and theranostics will disrupt existing, established structures in our healthcare system. This will allow new models of partnerships among technology and pharmaceutical industries (see fig. 1).

The foundation and evolution of healthcare

From the very beginning of mankind, healthcare was purely empirical and mostly a combination of empirical and spiritual skills. While access to cures was exclusive and very limited, the success rate was not very high in most cases. During the Renaissance a systematic exploration of natural phenomena and physiology laid the scientific foundation of modern medicine. A real breakthrough in quality and access to healthcare services has taken place in the past 150 years as an aftermath of the Industrial Revolution. It brought significant advances in science as well as societal changes: expanding government-granted access to the establishing working classes as the main human capital of the industrialization process in the Western Hemisphere. Keeping a business’ employees healthy became an indispensable prerequisite to increasing the national economic output and well-being on a societal level. In order to grant standardized access and quality healthcare, technologies became centralized and protected by government policies and regulations associated with massive capital investments and service layers (see fig. 2).

Microfluidics and microsensors

Manipulation of the working fluid by active components such as micropumps or microvalves. Micropumps supply fluids in a continuous manner and microvalves determine the flow direction. Embedding microsensors in microfluidics channels enables measuring biomarkers real-time from bodily fluids.

Precision medicine

A medical model that proposes the customization of healthcare, with medical decisions, practices, and/or products being tailored to the individual patient.

Theranostics

Ongoing efforts in clinics to develop more specific, individualized therapies for various diseases, and to combine diagnostic and therapeutic capabilities into a single agent.

Fig. 1: Commercial mobility for digital health revolution

Fig. 2: Healthcare has always been driven by technology with direct societal and economic impact
Challenges in our healthcare system

Today, chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world, representing 60% of all deaths.\(^1\) Healthcare systems are not sustainable anymore and costs in most countries are rising faster than their gross domestic product (GDP).\(^2\) The world has changed substantially in the past 50 years, while the healthcare systems have stayed mostly stagnant. However, seismic shifts in the healthcare industry have recently begun: large scale alliances across industry segments are driving innovation to disrupt the non-sustainable existing healthcare system, lower cost, and increase access to personalized medical information.

The abundance of technology, availability of genomics, health, and lifestyle data coming to the market every day helps us monitor, measure, and adjust our habits to improve our health and the outcomes of treatment.

Drivers for innovation

New imperatives of healthcare are focusing on prevention, personalization of diagnostics and treatment, and democratization, including access to everyone, anywhere, anytime at a low cost. This imperative is based on two pillars: ubiquitously distributed (decentralized) diagnostics tools for capturing the health status and processing of the data into personalized, readily accessible and actionable health information. The decentralized diagnostics tools will require low power, connected, commercial mobility devices driving affordable high-tech, low cost microfluidics cartridges—technically similar to the microfluidics cartridges for inkjet printers—to interrogate by biochemical means the health status. The clinically relevant data obtained will be processed on-site to provide immediate insight into the patient’s health condition. The technology convergence in medicine is enabled by the powerful combination of microelectronics, microfluidics, distributed network and data analytics (see fig. 3).

Our assets for democratization of medicine

At HP we have the privilege of legacy and leadership in the technology arenas which are needed so urgently in the healthcare industry: microfluidics, measurement, commercial mobility, and computing. As the world’s largest microfluidics company we have the know-how, scale, and leverage from our print business by making sophisticated microfluidics cartridges for healthcare diagnostics. Adding micro-scale sensors, precision programmable fluidics and embedded electronic systems to the microfluidic chip to interrogate human biology and interface the biometric data with a device for read-out and data communication are fairly simple to implement. Hence, our unique economy of scale of microfluidics cartridges and global reach have the potential to democratize diagnostics effectively. In an ideal world, data will be processed into useful information on-site. The recently released HP Elite X3, is truly the next wave of computing! Turning the Elite X3 into the data center and processing on-site healthcare data into contextual information will enable everyone to access personalized medical information. Health information consolidation, big data analytics, and machine learning in the cloud will offer new insights into human health. This will improve healthcare delivery, compliance and treatment outcomes. Precision Medicine will drastically improve quality of life due to an individualized treatment and recovery rates. Today’s Imprecision Medicine wastes billions of dollars on inappropriate, error prone and ineffective drug administration and treatment (see fig. 4).

HP’s vision for healthcare diagnostics

Our unique offerings as HP include the high level of vertical integration capabilities and a wide range of assets from microfluidics to commercial mobility devices with imaging and compute...
capability, which enables us to build an ecosystem of measurement devices and cartridges for the diagnostics of the human condition. As those measurements are currently, and will continue to be based on body fluids such as blood and saliva, single-use patient sample cartridges will unravel a substantial supplies business in analogy to our print business. Our razor/razorblade business has been the role model for the entire consumables-driven in the in-vitro diagnostics industry. Along with strong, strategic partners in pharma and diagnostics we will be able to address the healthcare industry at a global level (see fig. 5).


Acknowledgments

Thanks to the core microfluidics, MEMS devices and systems engineering group for creating novel solutions and applications of thermal inkjet technology.

Dr. Ali Tinazli, PhD joined HP in December 2015 and is leading the global strategy for healthcare and life sciences. Previously, Dr. Tinazli co-founded in 2008 Sony DADC BioSciences, a new biomedical business at SONY Corporation, which became a wholly owned subsidiary.

Dr. Manish Giri, PhD is leading HPI’s systems strategy and product development for healthcare and life sciences. His expertise is in end-to-end silicon microfluidics and micro-electro-mechanical systems (MEMS) based solutions for digital printing and life sciences application.

Dr. Paul Benning, PhD joined HP in 1995 focusing on inventing technologies and leading innovation in HP’s core print business and leveraging HP technologies to create new businesses. Paul has a Ph.D. in Materials Science, Chemical Engineering, and holds several patents.

TECHNOLOGY SNAPSHOT

HP & Knewton have integrated personalized print

First-ever education pilot with Berlitz

How does it work?

1. **Step 1** Complete the assessment
2. **Step 2** Scan the assessment
3. **Step 3** Get test results and a personalized print worksheet
4. **Step 4** Continue learning with targeted language practice

**How does it work?**

Want to learn more? Contact us: drupapersonalizedlearning@hp.com

Link Technology

Harness the power of end-to-end identity

**Brand protection**

Add security and authentication to protect against counterfeit products and product diversion. Place IDs on packaging, labels, photo products, books, and more.

**Supply chain efficiency**

Reduce costs in your supply chain or print production cycle with an efficient track and trace system. Match personalized printed components in your production process—without visible barcodes.

**Consumer engagement**

Make your products come to life! Deliver a variety of rich, interactive digital experiences that can be updated at any time for ongoing customer engagement.

The future of business is social selling
Powerful new connections for HP Partners and Customers
by Vincent Brissot, Head of Channel Marketing & Operations, HP

The Art of Selling has gone digital, and B2B commerce is fundamentally changing. The customer journey has migrated online: sixty-seven percent of purchase decisions are now made before the buyer ever makes contact with a sales rep. Seventy-two percent of B2B customers research solutions via social media.1 To have a presence in that crucial awareness—consideration—decision journey, HP and their partners need to meet customers where they are. This retooling may be a challenge, but this move to social business has as many advantages for partners as for customers. In these relatively early days, 78 percent of sales people leveraging social media are outselling their peers, and they’re connecting with customers who have significantly higher budgets.2 Social selling is here to stay, and HP’s transformation of the sales process is aimed squarely at equipping our partners to better serve our customers.

The growth of social media is changing the very nature of how we interact, with a million active mobile social users signing on to social media sites every single day.3 Business interactions have evolved from face-to-face, to phone-to-phone, to the current screen-to-screen environment.

“What’s next, robots buying and selling?” Well... yes

The next transformational leap in B2B commerce is imminent: robot to robot, AI-driven negotiation. Does that sound implausible? Consider how the accelerating trajectory of technology has offered buyers and sellers new ways to efficiently close deals. As far back as 1991, scientific papers were predicting negotiation planning via artificial intelligence. Fast forward to Facebook’s recent investment in chat-bot technology to help businesses answer customer inquiries, provide information, and facilitate transactions. Granted, AI and bots in commerce are in their infancy, but Gartner has predicted that by 2020, customers will manage 85% of their relationship with the enterprise without interacting with another human.

What does this mean for our partners? It means that traditional selling tools are not

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1 “Social Media and Sales Quota Report”, A Sales Guy Consulting, 2014
2 IDC, “Social Buying Meets Social Selling: How Trusted Networks Improve the Purchase Experience”, April 2014
enough for the ultra-informed, new school customer. They rely less on direct marketing messages, and more on crowdsourced opinion: reviews, recommendations, and thought leadership. If you are not present and active in the social space, you’ll be outsold. The good news is that by building an active digital presence now, HP and partners are forging connections with highly engaged customers, pre-, during, and post-sale. This will help customers and partners accelerate their growth today—and in the AI and bot-driven world of tomorrow.

HP has launched the Social Media Center—our commitment to ensuring that partners and customers connect in this vibrant marketplace.

It’s an offering unmatched elsewhere in the industry; a rich resource to help partners increase their visibility and reputation online.

In the initial U.S. pilot program for HP Social Media Center, one partner reported a 400 percent increase in customer impressions (from 4,000 to 16,000), and more than 2000 new profile views in less than a month. This is a great result for the partner—but also for customers, who can more easily find trusted partners and solutions to their biggest challenges.

Valuable content for social media novices and pros

HP Social Media Center is a reservoir of curated content that partners can publish to their own channels. It spans four key areas of focus: mobility, security, education, and healthcare. There is both industry and HP specific content, in materials that include white papers, business cases, customer stories, infographics and articles that partners can use to showcase their expertise and the power of HP solutions.

Training modules are provided to equip the partner with advice on how to build a community of followers, and what kinds of content are most effective. Using the training, a partner can go from baseline social media know-how to being self-sufficient after a quarter, with additional assistance available from HP as needed. Partners access the HP Social Media Center through the HP Sales Central portal.

Social media interaction offers a new way for customers to engage with HP through the partner community. We’ve entered a new era of selling that is far less product focused, and more about the solution and business outcome that best serves the customer. By driving this more engaged and collaborative business environment, HP believes the future of business will benefit partners and customers alike.

Vincent Brissot as Global Head of Channel Marketing, drives the planning, development and execution of HP’s marketing initiatives with HP’s channel partners community. This includes channel marketing programs, Market Development Funds (MDF), campaigns and metrics.

Face-to-face

- Dawn of time
- 1.3 – 1.8M yrs. ago
  - Homo Sapiens

Phone-to-phone

- Early 20th century
- 1876
  - Alexander Graham Bell’s first successful experiment with the telephone

Screen-to-screen

- Mid 20th century
- 1972
  - ARPANET’s successful demonstration at the International Computer Communication Conference

Robot-to-robot

- 21st century
- 1991
  - Negotiation planning: an AI approach — ScienceDirect

Until the 20th century, the nature of trade didn’t evolve dramatically. Sales was face-to-face and real time, from seal skins to encyclopedias. Transportation accelerated the process, and telephones allowed live conversations to compliment face-to-face. The internet ushered in our current era of screen-to-screen business interaction, the first true disruption of face-to-face selling. And we’re well on our way to automating sales and negotiation processes through the use of bots and AI.
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The HP customer experience transformed

HP Graphics Solutions Services is innovating for customer success

by Oanh Phuong, VP and General Manager for Graphics Solutions Services, HP

Three years ago, HP GSS embarked on an exciting multi-year journey to transform the service business from traditional reactive support to a proactive service model, creating a competitive advantage for our customers in driving the best business outcome. The three key pillars of our transformation are:

1. Adapt a customer-centric culture and engagement model that facilitate a proactive mindset
2. Optimize business and operational processes
3. Assertively leverage data and innovative technologies to provide customers with availability and control

We named this strategic initiative ‘HP Service Advantage’.

HP Service Advantage is a balanced approach to deploying technologies to avoid and address unplanned downtime, predicting failures before they occur, and practicing proactive engagement between the service team and our customer.

Dealing with unplanned downtime is often a race against the clock. To avoid that pressure, we have launched the following technology innovations:

HP Print Care

This on-press software enables users to resolve issues independently, through diagnostic and troubleshooting processes. For customers, it’s like having their own onsite technician, 24x7.

HP Print Beat

A performance dashboard that is emailed to customers weekly to provide greater visibility and insight into their press’ performance. The report enables easy access to key performance indicators and benchmarks that have been consistently recognized by our customers as instrumental in driving continuous improvements in uptime and productivity.

HP Smart Uptime Kit

Accessible anytime, anywhere, this kit enables customers to effectively manage their inventory of uptime spare parts.

HP Visual Remote Guidance

Leveraging the power of wearables, operators can initiate and engage with HP remote support using voice commands, while streaming video to provide full visibility to an HP engineer. The HP engineer can then easily guide the operator to a resolution, while the operator’s hands remain free to follow instructions.

Blended Learning experience by HP

Understanding the stringent demands of our customers’ business, Blended Learning experience by HP offers customers a rich and effective learning experience that enables continuous learning. Self-paced modular virtual training, instructor-led webinars, and online assessment tools are combined with hands-on onsite training, delivering maximum results with minimum cost and time away.

Rather than waiting for a critical issue to occur, our focus is now on preventing the issue
from happening. As part of this we have introduced the following innovations:

HP Predictive Press Care

Using data analytics, we can predict potential service needs for the press and notify the customer. This enables the customer to avoid unexpected downtime and plan the required service for a convenient time.

HP Customer Excellence Program (CEP)

With this consultation service, customers enjoy a structured, multi-disciplinary boost of know-how, expertise, proficiencies, and focus that bring their business and technical performance to the maximum.

While technology is a key element of HP Service Advantage, our passionate, customer-centric services workforce is a critical component in delivering a best-in-class customer experience. The technology transformation enables our services personnel to shift their attention from purely issue resolution to proactively serving and partnering with customers. This transition requires a culture shift and reskilling the services workforce. The ‘Growing with Purpose’ program was launched to drive transformative changes in our organization to acquire and grow the right skills and approach for delivering a true service advantage.

At HP GSS, it is all about the success of our customers. Throughout our service transformation, we partner closely with customers to validate and pilot new ideas and innovations. And our investment in HP Service Advantage is paying off. We have received very positive feedback from our customers, with proven benefits: significantly increased uptime, supplies yield, and consumables life span, as well as customer growth in new markets. HP Service Advantage has also enabled HP to grow and develop our service personnel into the most customer-centric, passionate, and proactive workforce and to establish an innovative work environment. ●

Learn more: http://bit.ly/U3_08

LEADERSHIP ADVICE

> From her upbringing in war-torn Vietnam to her rise to VP and General Manager for HP’s Graphics Solutions Services business, Oanh Phuong has always looked to the positive in change and the opportunities it offers.

In 1975, Oanh moved from Saigon to San Diego and began her college program on her way to earning a Bachelor of Science Degree in Industrial and Systems Engineering. She and her family eventually moved to the San Francisco Bay Area where she received her master’s degree from Stanford University. Oanh was recruited by HP during her last week of finals at Stanford.

Fresh out of college, Oanh joined the HP Manufacturing team in Cupertino. After her promotion to Manufacturing Project Manager, she oversaw the introduction of just-in-time-manufacturing for servers at HP. This was a major innovation to streamline production workflows and reduce waste.

Oanh was soon offered a fresh opportunity to move to Roseville California and manage the design and build of HP’s newly consolidated server and networking manufacturing facility. During her 20-year career at HP’s Roseville facility, Oanh relished the opportunity to be part of many new developments in supply chain, engineering, and operations of world-class new product introductions and built to order manufacturing. Her responsibilities grew to the point where she was named Director of Strategic Procurement and Engineering, managing 300 engineers in 6 different locations, plus extended teams to launch new products across all three worldwide regions.

Recognized for her motivation and track record, Oanh was offered a position across the Pacific as Director of HP’s Technology Services (TS) Customer Operations. In this role, she led the TS Customer Operations of 1,300 employee spanning 13 different countries for Asia Pacific and Japan (APJ). During her 3-year assignment, Oanh transformed her APJ Customer Operations into the best among worldwide regions in delivering customer experience and operational efficiency.

Today she revels in her role back stateside, guiding HP’s Graphics Solutions Services business and delivering HP Service Advantage. Oanh continues to get inspiration from helping her customer, HP business, and employee growth through innovation and transformative changes. She spends more time in leadership coaching and mentoring HP employees and actively engages in external leadership development and mentoring programs for executives.

When Oanh is not driving HP’s world-class services organization, she enjoys downtime hosting dinner parties for friends and family. She and her family have not forgotten their roots however, to this day Oanh is very involved in rebuilding the churches in the remote areas of Vietnam where she spent time as a child.

Oanh Phuong’s advice to aspiring managers and leaders

1. Focus on what customers and key stakeholders ask of you.
2. Embrace change. Change can be very positive, sometimes you need a catalyst. How you respond to and manage change helps define who you are.
3. Foster an environment of openness, trust and respect. That will lead to great teamwork and collaboration.
4. Never go it alone. Work with product, go-to-market and channel teams, to help achieve scope and scale of any project.
5. Balance customer needs, business needs and employee growth. You should always be in search of customer feedback for ways to improve, but you also need to stay in touch with talent growth needs and desires. Be on the lookout for new projects based on customer feedback that will allow your employees to grow and help drive the business.
6. Remember, no task is too small. ●
HP PageWide Technology has reinvented the rules of printing

HP PageWide Technology was perfected with our multi million-dollar industrial web press. Today, businesses around the world print billions of pages per month with these powerful, flexible, cost-saving systems. Now, in an industry breakthrough, HP PageWide Technology has been scaled to the office: raising the bar on expectations for fastest speeds, professional color, and greater energy efficiency at the lowest total cost of ownership in its class.

HP PageWide: The journey from production to office printing

This new class of HP PageWide printers and multifunction printers (MFPs) offer businesses a distinct competitive advantage. HP customer, Downstream, is a visual design firm focused on building branded environments. HP PageWide business printers give them a competitive advantage as they strive to exceed the needs of their customers. For them, how designs look on paper is very important, and the HP PageWide printer surpassed their expectations for speed, print quality and lower cost of ownership, and has been a great addition to their tool set.

Evolution through scalable technology

With 30 years of investment and a vision to develop and reimagine the way we print, HP PageWide Technology continually disrupts industries with advancements in ink formulations, paper transport, and most importantly, scalable printheads. This technology evolution was no small feat. Balancing print speed, quality, and cost once meant sacrificing one benefit to boost another. Today, HP PageWide Technology overcomes these trade-offs with innovative and scalable designs that deliver what our customers need: quality and speed together—at a significant cost advantage—all built on proven technologies.

The consistent print quality, speed, and reliability of HP PageWide printers is made possible by HP Scalable Printing Technology (SPT)—the latest generation of HP Thermal Inkjet technology that employs ultra-precise and proven materials, design rules, and manufacturing processes. SPT brings to printhead manufacturing the benefits of large-scale, precision processes developed for the production of integrated circuits. With SPT, all parts of the printhead, from thin-film integrated circuits to thick-film fluidic structures, are defined using a process known as photolithography, which can define very small structures. The ink passages, chambers, and nozzles in SPT printheads are produced with sub-micron precision to deliver every drop with uniform volume, speed, and trajectory for consistent image quality.

Industry disruption, the HP PageWide legacy

In a recent interview, Aurelio Maruggi, HP VP and General Manager, Office & Versatility Solutions, Inkjet & Printing Solutions, describes the profound transformation that started with the introduction of the HP PageWide web press at drupa, the print industry’s most important convention, in 2008. HP PageWide Technology disrupted the offset and digital printing press industry with a web press that would deliver high volume, quality printing at an economical cost per copy. That announcement marked the beginning of an unprecedented rise of a new technology in the Graphics industry and, at the same time, the sharp decline of
conventional offset technology, with Print Service Providers (PSP) directing new investments towards a technology that would allow game-changing flexibility, productivity, and cost-efficiency. Aurelio explains that PageWide was a disruptor because of the ability to meet customer’s emerging needs in terms of flexibility (production quantities and supply chain), customization and personalization. Digital printing was not new at that time, but other technologies, such as laser, were not able to meet the speeds and high-volume needed for mass production, especially for full color printing. The HP PageWide web press was able to deliver high volume, low cost and high quality without compromise, enabling what was called since then ‘mass customization’.

PageWide capabilities have benefited multiple industries served by the HP Graphics business unit, from publishing to packaging, enabling profound transformations of supply and value chains. In packaging, for example, with the PageWide web press, brand owners can produce boxes just in time, eliminating wasteful inventory and unleashing the potential of unique marketing campaigns targeted to individuals or time sensitive events.

A proven platform, scaled for the office

HP PageWide Technology is changing the rules of printing by delivering speed, quality and cost with the reliability required by equipment intended to operate 24/7. The success of HP PageWide printers in the Graphics industry has been thoroughly proven, with over 140 billion pages printed to date and counting.

The big news today is that HP has taken this proven platform and scaled it for the office, creating a generation of PageWide business printers ideal for hard-working teams of 5 to 15 people printing up to 7,500 pages per month. HP customer Excel Trust, is a real estate investment trust company that uses HP PageWide printers for their high volume office printing. In the very paper intensive industry, speed, quality and cost are critical factors especially when their office prints up to 150,000 pages per month.

These devices offer phenomenal productivity, outperforming in-class laser devices for speed—up to 75 pages per minute (black and color), and a first page out time of 7.1 seconds. They produce professional-quality color documents that are water-, smear-, and fade-resistant, for archival durability—perfect for the office environment. And they deliver all-around savings and lowest total cost of ownership with less maintenance and fewer replaceable parts than most lasers, and lower energy consumption than in-class laser printers.

Innovative design enhancements for the office

PageWide gets its speed by printing in a single pass, but achieving reliable quality required innovation and advancements in the design of printheads, printhead service stations, inks, and paper transport. To precisely place a dot of ink, each nozzle must eject a drop when it is required and within tight tolerances on speed, direction, and drop weight. A service station in the printer checks each nozzle’s performance and determines if it is operating properly. Using HP’s optical drop detectors—that can see individual drops inflight—1000s of nozzles can be checked every second. The service station cleans, wipes, and caps the printhead, and can restore nozzles to operation.

HP PageWide printers needed a compact, reliable paper transport to produce fast, face-down, correct-order output with built-in automatic two-sided printing. HP designed a new paper transport that effectively delivers reliable paper pick-up, low jam rates, and continuous and accurate movement of the paper in the print zone. Two-sided sheets are printed and delivered to the output tray without smearing ink.

HP PageWide Technology enters the office at a critical time in history and the opportunities are substantial. While we live in a world of color, the modern office still prints about 80% in black-and-white. With breakthrough color cost for print PageWide Pro and Enterprise printers, businesses are poised to reap the benefits of color output in their day-to-day communications. HP PageWide Technology and the innovation it brings to the office will continue to disrupt how many businesses think about printing.

Learn more: http://bit.ly/IJ3_09
HP’s priming agent invention
Accelerating the transformation of analog to digital printing

The advanced technology and platform solutions (ATPS) is the technology development hub driving innovation that creates and leverages key assets in print technology and physical sciences to grow imaging and printing. The ATPS team utilizes “5 levers”—inks, print heads, hardware, writing system, and media—to develop technologies to meet customers’ needs.

Priming agent technology is a great example of media chemistry innovation enabling new applications to help expand publishing and grow packaging markets for HP PageWide web presses. Similar to primer used prior to painting a wall, a very thin layer of priming agent is applied using a flood coater to the media substrate in order to enhance the print quality and durability for high-speed inkjet printing.

Innovation

Typically, to meet customers’ print quality and durability requirements, printing hardware companies would partner with paper mills to develop specialty inkjet media with optimized coating chemistry for inkjet printing. But this resulted in higher-priced specialty inkjet media due to manufacturing inefficiency, lower volume, and additional products and inventory to manage.

The desired goal in the inkjet printing industry is to be able to print directly on low-cost coated offset stock. However, coatings used in offset papers are designed to repel water, including water-based inks used in inkjet, resulting in print quality defects and drying issue at production speeds. Thanks to the out-of-the-box thinking of the ATPS team, HP has a completely new approach to solving this classic challenge. Priming Agent, a water-based coating that is specifically designed for HP inks, is flood coated to coated offset stock with a PrimeCoat hardware, which is inline integrated with web press, prior to digital printing. This new priming solution allows PageWide web press customers to print on a wide range of standard offset media without compromising quality or productivity.

Challenges

There are many challenges throughout the development process like being quick to market, having limited tools and resources, and extremely aggressive performance and cost goals, but none of these challenges stopped the team. The passion for customers, a risk-taking mentality, and persistence lead the team to success.

Customer success

The ATPS team is already putting their priming solution to great use as part of the HP PageWide T200 and T400 web presses in the publishing markets, as well as, HP PageWide Web Press T400S in the packaging market. The solution has gained tremendous interest from current and future PageWide web press customers, and enabled multiple new press deals.

According to Dr. Haigang Chen, ATPS R&D Program Manager, customers really appreciate the technology advancement, “I love to hear the enthusiastic response of our customers. They not only love the quality, but feel it’s strengthening the entire offering.”

Future

The team is not stopping there. They are working on a new generation of priming agents to further strengthen the portfolio and enhance the performance while reducing the cost. In ATPS, innovation never ends. It is the printing technology center developing the cutting edge technologies to transform the printing industry from analog to digital. Chen adds, “I am thankful to be part of the innovative team that allows us to bring new ideas to established products that are making a real impact on the print industry. I hope someday in the future, when digital printing dominates the market and analog printing is obsolete, I can proudly tell my friends that I was part of the team that changed the printing industry, just as smart phones replaced feature phones!”

Learn more: http://bit.ly/IJ3_10

Haigang Chen (5th from the left), with team members in front of HP PageWide Web Press T400S in San Diego
A colorful collaboration

Purdue University and HP: Decades of imaging innovation

In our previous issue we touched on the long-standing research collaboration HP has with Purdue University. This 25-year collaboration has paved the way for amazing innovation in imaging, and is now setting the stage for advancements in ambient computing technology for home and office applications.

The collaboration between Purdue and HP started in 1992. While Qian Lin was an intern at HP Labs during her PhD program at Stanford University, she invited Professor Jan Allebach and his colleague Professor Charles Bouman to give a presentation at HP Labs. Professor Allebach was Qian’s former advisor at Purdue University when she was working on her Master’s degree in Electrical Engineering. Professors Allebach and Bouman were well-known researchers in the area of electronic imaging and Qian thought they would provide valuable insights to the HP team. This was the start of a collaboration between Purdue University and HP that included HP Labs, and printer divisions in Boise, ID, Vancouver, WA, Israel (Indigo and Scitex), and Barcelona, Spain, that has continued through present day. Professor Allebach himself spent six summers as a Visiting Researcher at HP Labs, and later did a sabbatical there. One result of this strong engagement with HP was Professor Allebach’s contribution to the development of HP’s Color Smooth Dither technology.

Dithering means creating the illusion of colors and shades by varying the dots in an image. In printing, dithering is usually called halftoning, and shades of gray are called halftones. Halftoning is a key component in the printing pipeline that directly affects the print image quality. While working on a research project in digital holography, Professor Allebach developed an algorithm called Direct Binary Search to design holograms. During one of his summers at HP Labs, he collaborated with Qian, a renowned researcher in halftone algorithms for HP printers. Applying Jan’s direct binary search ideas to those algorithms led them to the design of halftone dither matrices called “Color Smooth Dither” that were shipped in HP Inkjet and large format printers.

Many other technologies developed in the collaboration between HP and Purdue can be found in a wide range HP’s printer products. Over two dozen patent applications have been filed by HP to protect this work. Sixteen faculty members and over 60 graduate students from four different departments at Purdue have participated in this research.

Acknowledging the contributions from Purdue professors and researchers, HP endowed the Hewlett-Packard Professorship in 2006, which is presently held by Professor Jan Allebach. The Purdue and HP collaboration continues to grow in the quest to solve some of the complex problems involving multi-disciplinary research. As an example, a new research project explores using deep learning to recognize objects in images in real time for ambient computing applications.
The HP Tech Ventures program had its press launch at this year’s TechCrunch Disrupt NY event. Bringing together some of the hottest startups, incubators and investors, Disrupt NY was the perfect platform to unveil HP’s new corporate venture arm.

HP Tech Ventures is focused on sourcing, investing in, and commercializing early-stage startups in markets where the company can provide a substantial value-add. Based in the premier innovation hubs of Palo Alto, Calif., and Tel Aviv, Israel, HP Tech Ventures is looking to fund early-stage companies that are aligned with emerging technology areas that we believe will be the building blocks for the future, including: 3D transformation, immersive computing, hyper-mobility, Internet of Things, and smart machines.

By partnering with the startup community, HP Tech Ventures is helping HP to not only accelerate growth in current businesses, but evaluate and pioneer new market opportunities.

“As Silicon Valley’s original startup, we have an opportunity to pay it forward by helping early stage startups achieve scale,” explained HP’s Chief Disrupter, Andrew Bolwell. “In addition to funding, our focus will be on adding value by leveraging our world-class technology network, our channel and distribution partners, as well as manufacturing and supply chain capabilities to help start-ups reach scale quickly.”

Early reaction for the new initiative has been extremely positive with a significant amount of interest across both venture and start-up communities, as well as broad coverage in major business and technology media outlets.

Leveraging our broad patent portfolio and 75 years of innovation experience, HP is in a great position to help aspiring entrepreneurs, and foster an ecosystem of innovation that will shape markets and communities for years to come.

Learn more: http://bit.ly/IJ3_11
Meet amazing HP talent

How does your business foster innovation?

Nancy Janes
WW Business Development Director,
Graphics Solutions Business, HP UK

We have a defined WW Business Development program that targets Brand Owners, Designers, Agencies and Publishers to increase awareness and preference for HP Graphics Digital print. To see examples of projects resulting from this program please visit: http://bit.ly/IJ3_20. This program is just one of our GSB page growth initiatives, aimed at driving innovation and business process re-engineering—accelerating the analogue to digital transformation.

Alan Lobban
R&D Section Manager,
Graphics Solutions Business, HP Spain

We’ve found that great innovation happens when we combine technology with an in-depth understanding of customer needs and opportunities. Customer knowledge is key! We’ve invested in user-centered design methodologies and promote a customer centric culture that ensures everyone in the business is focused on delivering real value for the end users of our products and solutions. We are now consistently applying “launch & learn” to get early customer feedback and make the adjustments necessary to keep our innovations on track.

Cristobal Macedo
LF Indistrial & PWP Corrugated Director
Graphics Solutions Business, HP Spain

Innovation is all over our business these days. We have defined a new strategy to address a new segment—Corrugated Packaging—with an improved portfolio of products; a new organizational set up—which merges two existing organizations—and a renewed go-to-market approach. Think about it. A renewed strategy brings nothing but innovation: all of our team members are embarking on an extremely creative process as we are building the foundations to support a business that did not exist before. Aren’t we fostering innovation????!!

Agostinho Santos
Service Parts Operations Director
Graphics Solutions Services, HP U.S.

Fostering innovation in Graphics Solutions Services is about partnering with customers, understanding their needs, and enabling them to effectively and proactively manage their printing operation and grow their business. We not only aspire for consistently delighting customers with core break and fix support, but also with innovative services for improved press uptime, productivity and predictability of operations. On this note, a successful example of innovation is HP Service Advantage offering which bundles consultative services and a rich set of assets powered by cloud computing, big data analytics, and mobility tools.

Ester Sala
WW Large Format Strategic Marketing Manager,
Graphics Solutions Business, HP Spain

The Print Industry has been transforming itself since Digital Printing came onto the scene—changing the way we print, and the way we communicate. Until today, innovation has been focused on delivering superior quality, better efficiency, and wider applications.

The next digital printing revolution will bring immediacy and human-centric products; assist companies of the future to manage their business with printers interacting seamlessly with other print plan devices. These devices will respond to voice commands, predict when they need to be ready, and automatically schedule service routines for optimal printer readiness.
HP looks to make its mark in 3D printing

New 3D printers are up to 10 times faster than competing units.

Source: The Wall Street Journal

Reviewed: This is the best printer ever made, hands down

Source: Inc.

HP Inc. unveils world’s thinnest laptop

Company keeps reinventing with new HP Spectre, combining exceptional engineering and craftsmanship with beauty and performance.

Source: HP

HP Inc. supercharges PC Gaming with Omen by HP

Company unleashes new gaming portfolio with razor sharp designs, virtual reality tuned desktops and powerful graphics.

Source: HP

HP launches a whole new line of secure laser, office, and professional printers

Source: VentureBeat

HP wants to redefine how print is produced through Print OS

Print OS is an ambitious bid to run print production workflows for its users via a cloud infrastructure, refining a process that has changed little in 20 years.

Source: Print Business
I work with brilliant people

I’ve enjoyed working on technology development with the team. We were the first movers in this transition from analog to digital packaging and printing with a totally disruptive product—the T1100S. We’ve had the opportunity to investigate technology that is going to supply solutions over a wide variety of horizons.

We stand on shoulders

We are able to be successful today because of the assets created by previous organizations within HP. When we started working on the HP PageWide web press, we used existing HP assets like print heads to create our first industrial production machine—propelling us into the high-speed industrial printing industry. We moved away from analog processes, allowing for greater productivity. Launching a start-up within HP was a great experience, and I was fortunate to be a part of that group.

Each day is different

I’m working on technologies and products that we’ll be delivering this summer and as far out as 2020. It’s interesting to think about products we need now and those we’ll need in the future. My highest priority right now is working on the T1100S. It’s been a valuable experience collaborating with KBA on a product that will change the corrugate industry as we know it today.

I also have leadership roles in other technology development and products we will introduce over the next 2 to 7 years. Especially for the longer term technology, we are partnering with Graphics Solutions Business (GSB) divisions to make sure we are making and appropriately guiding investments in technologies that will serve GSB and HP.

Work is like football

I enjoy coaching football and getting to know young people in our community. I believe anything is possible with a team and that rings true on the football field and in technology development. Every position matters and it’s amazing how people step up to make things happen when they’re given the chance.

Learn more: http://bit.ly/IJ3_02

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1 Koenig & Bauer AG (KBA): A German company that makes printing presses based in Würzburg. It was founded by Friedrich Koenig and Andreas Friedrich Bauer in Würzburg in 1817, making it the oldest printing press manufacturer in the world.