2018 intelliPACK Leadership Council Update

intelliPACK
BUSINESS NETWORK

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What is intelliPACK?

intelliPACK has in three short years grown to become a recognized thought leader in North America for smart packaging and smart retail. The technology behind intelliPACK – smart packaging and smart retail solutions – is Flexible, Printable and Hybrid (FHE) electronics enabling brands, packaging companies, retailers and retail display makers to add intelligence to ordinary objects like packaging, shelves or retail displays. The technology uses additive printing techniques to print electronics on paper, glass or plastic.

These functions can deliver new, exciting interactive consumer experiences along with supply chain management solutions such as authentication and inventory management. They deliver product information to consumers at point of purchase, including consumer reviews, dynamic pricing and promotions. This helps brands stand out in the aisle, communicating directly with the consumer for increased sales and higher profitability.

intelliPACK is like no other packaging group in the world. Unlike similar packaging industry consortiums, which typically act as networking vehicles and little else, intelliPACK's mandate is to collaborate with all supply chain stakeholders to create awareness, educate, facilitate solutions, and eventually develop industry standards. intelliPACK members come from all parts of the supply chain including brand owners, retailers, packaging companies, technology developers and integrators. It's a joint program of intelliFLEX Innovation Alliance and PAC (Packaging Consortium), North America's leading packaging industry association.

The group's first two years were led by two impressive co-chairs from Atlantic Packaging and Unilever, who set it on the right course. The current co-chairs are James Lee, of Jones Packaging, and TUKU's Mark Baldwin. Each have been mandated to significantly grow the program's impact.

In 2018 it become apparent that certain critical areas needed more in-depth attention. The intelliPACK Leadership Council then formalized four subcommittees in the following areas (more on these on the following page):

- Environmental
  - Chair: Todd Bukowski, PTIS
  - Mandate: To ensure environmental sustainability in smart packaging, and to consider end-of-life
- Outreach
  - Chairs: Peter Kallai, intelliFLEX & Jim Downham, PAC, Packaging Consortium
  - Mandate: To provide outreach and educational opportunities
- Demo
  - Chair: Chad Smithson, Xerox Research Centre of Canada
  - Mandate: To generate demonstrations that highlight possibilities
- Consumer
  - Chair: Mark Baldwin, TUKU
  - Mandate: To understand consumer requirements and ways to spur smart packaging adoption

Achievements

- Have consistently spread the word at industry events and in targeted publications across North America on smart packaging and how it can benefit organizations
- Collaborations between members have already proved fruitful, as several members have worked together on projects which have resulted in revenue
- A clearly defined and articulated value proposition, combined with the disruptive nature of smart packaging, has driven organizations to take smart packaging more seriously than ever before
- In the past 12 months, intelliPACK has produced:
  - A one-day training course on smart packaging, available for members in public or in-house at their own company
  - Two white papers
  - An PAC/intelliPACK industry event with over a dozen leading industry figures, and trade show exhibit attended by close to 100 people
  - Speaking engagements to universities and pharmaceutical brand owners
  - Interviews with media outlets resulting in coverage in packaging publications

Future Goals

- Continue thought leadership, demonstrations and evangelism to increase overall adoption of smart packaging and smart retail solutions across North America
- Develop knowledge that's usable for members of both intelliFLEX and PAC, and that could go toward generating industry standards
- Develop solutions that adhere to advanced sustainability and environmental standards

Environmental Subcommittee

Achievements

- Identified issues of sustainability end environmental standards, and currently developing ways to address them
- Helped provide input to development of a technology network across Canada, the GreEN R&D Network, that raised $6 million in government funding to research green materials for printable and flexible electronics solutions.
- Currently developing a sustainability checklist for smart packaging, to act as a resource and quick reference document to ensure technology developers and users ask the right questions and consider environmental impact throughout the packaging value chain
- Target audience is both technical (for packaging developers, converters, technology manufacturers/integrators, academia, and recycling/waste management providers) and non-technical (brand owner marketing, procurement), and is meant to provide direction without being overly technical

Future Goals

- Inform the broader community on environmentally friendly and sustainable solutions that consider circular economy principles
- In the short term, the subcommittee is focused on gathering team input and identifying knowledge gaps for the sustainability checklist
- Hope to complete data collection by late 2018/early 2019, before leveraging PAC resources to produce a professional-grade document
- Long-term goal is to provide additional resouces around sustainability and to be viewed as a leading technical sounding board (this may include a web presence, with technology or case study examples)

Outreach Subcommittee

Achievements

- Regular coverage of intelliPACK and its activities from industry trade publications, with the organization now recognized as a thought leader in North America
- Use cases and reports developed to identify applications
- Evolved positioning from general market to more specific verticals where early adoption is more likely, such as pharmaceuticals, alcoholic beverages, luxury goods and cosmetics
- Workshops held every year since inception, with 65 to 100 people at each event
- Have taken advantage of several communications opportunities from other subcommittees, such as technology demonstrations at various events

Future Goals

- Subcommittee has actively pursued committee members who can add value and raise its profile, and more of this will be done in the future to solidify the perception of having influential industry members on board
- Use intelliPACK one-day training course to deliver training adjacent to industry events, or train staff at corporations interested in smart packaging and retail
- Create partnerships with other organizations with a captive membership interested in smart packaging and smart retail

Demo Subcommittee

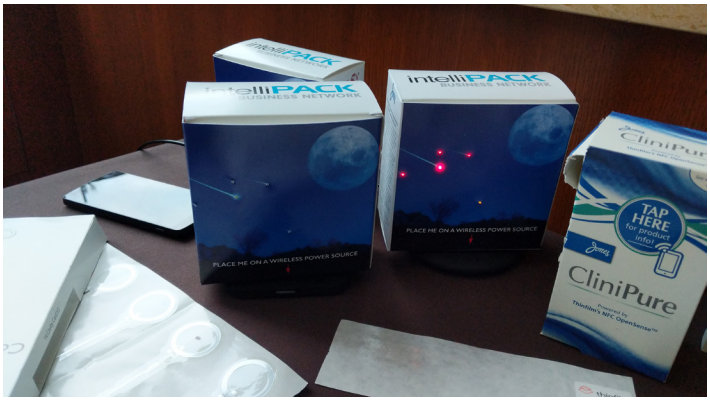
Achievements

- Committee members have, from the outset, shared technology expertise and experience to create demonstrators more complex and polished than any one company could produce on its own

- Have provided tangible examples of printed electronics that can be shown to customers or prospects, or brought to trade shows (physical samples are always more compelling than brochures or pamphlets)
- Have completed three demonstrators, with one in the development stage:
  - First item was a set of custom name badges for the PAC to the Future II conference in Montreal, in September 2018. These badges had an NFC antenna printed on them that linked the user to useful information about intelliPACK and the conference itself. This was a joint effort between seven companies, encompassing substrates, ink supply, printing techniques, NFC microchips and online interfacing

Above (l-r): A mobile phone interacting with a custom name badge demonstrator designed for the PAC to the Future II conference, and the inside of the PAC custom badges.

  - Second item was a wirelessly powered package that lights up by a phone or wireless emitter, a joint venture between two member companies where printed electronics was put on the package and graphics added afterwards



Above: a wirelessly powered package demonstrator that lights up by a phone or wireless emitter

  - The third was a printed electronics system that could harvest energy from indoor lighting to power light and temperature sensors, with data pushed to a computer for logging

Future Goals

- Generate more examples of intelligent packaging, showcasing more member technology and innovation, to educate a wider audience about smart packaging and what it makes possible
- The first demos were created solely using technology from companies in the Leadership Council, but the subcommittee's goal is to branch out to other members to create new and interesting demonstrators

Consumer Subcommittee

Achievements

- Recognizing the need to drive consumer awareness of smart packaging, which requires education, the committee generated a report of various smart packaging calls to action that have been deployed
- Generated a report highlighting the lack of an industry standard logo that's easily recognized by consumers (the NFC Forum N-Mark is close

but isn't widely recognized and can be confused with other logos from other industries), along with illustrating various logos currently in use globally. The committee believes a universal smart packaging logo must be as recognizable as the Wi-Fi logo is today

- Identified that large brands must lead the market, to spur consumer awareness on a global scale
- Also recognized and identified roadblocks to mass adoption, including the fact that organizations currently treat the incremental costs of smart packaging as a cost of goods sold expense. The committee believes these costs should be marketing and not procurement expenses (the latter may limit an organization's ability to launch smart packaging programs). Changing the accounting of such expenses will be an ongoing challenge and may require a fundamental change to many organizations' accounting methods, which could limit scale and sustainability.

Above (l-r): The NFC Forum N-Mark, and an NFC tag on a bottle of Astral Tequila – two examples of the various logos in use on smart packaging solutions.

Future Goals

- Raise awareness and promote best practices to educate consumers on the value of smart packaging
- Create and promote an industry standard logo for smart packaging. Explore collaborations with other industry organizations and stakeholders in promoting a standardized logo that's easily recognized by consumers
- Establish and promote best practices for compelling calls to action that incentivize consumer engagement
- Continue to research smart packaging best practices from around the world
- Position intelliPACK as the de facto thought leader in promoting consumer awareness and engagement with smart packaging

DeLorean & Smart Badges Create Smart Packaging Experiential Demo at PAC to the Future II Conference

The life size DeLorean on display at the PAC to the Future II conference was a unique opportunity to showcase the invisible barcode capabilities offered by Digimarc and smart name badges for PAC conference guests. IntelliPACK saw this as an opportunity to create an interactive attendee experience and highlight the benefits of turning a physical product into an experience.

The DeLorean, designed and built by Atlantic Packaging, was covered with embedded invisible barcodes that allowed attendees an opportunity to scan the car and unlock rich content directly from their mobile device. This experience was available to guests upon download of the Digimarc app.

The smart badge was produced with NFC and QR codes that connected guests directly to a mobile landing page. This provided them with information on the badge technology, a video from ICI about production and a download link to the Digimarc app.

The collaboration between all parties highlighted an important reality in the market of intelligent and connected packaging.

Showcasing this functionality was made possible by ICI (Institut des communication graphiques et de l'imprimiabilité), XRCC (Xerox research centre of Canada), Sun Chemical, Tuku, Jones and Atlantic Packaging. ICI arranged the generous donation of NFC chips from AdvanIDe that were integrated into the batch to provide contactless communication functionalilty. Graphics for the card were printed on a Xerox Iridesse digital press with all attendee names, ICI then printed a silver wireless antenna through screen printing and used conductive adhesives to attach the NFC chip. The design of the badge and mobile website were done by Jones and the mobile website functionality was hosted by Tuku.