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ASHP Midyear 2015 Technology Summary

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INTRODUCTION

This year's **ASHP Midyear Clinical Meeting** was held at the Ernest N. Morial Convention Center in New Orleans, Louisiana on December 6 through December 10. For many, the Midyear Meeting is about the latest in clinical advances, but for me, it's an opportunity to see all the new pharmacy automation and technology. And the best place to see the latest and greatest technology is in the exhibit hall.

Below you will find my thoughts on what I saw while roaming the exhibit hall. By no means is this an exhaustive list, but rather items that I think are worth mentioning and thinking about.

CLEANROOM

The pharmacy clean room (a.k.a. iv room) continues to get a lot of attention, and rightly so. With the introduction of *USP Chapter <800>* and proposed changes to *USP Chapter <797>*, the clean room is on everyone's mind. This year's exhibit hall was a direct reflection of this.

"Sterile compounding is a significant but perilous core pharmacy process in dire need of improvement."

– ISMP Jan 2015

⇒ The clean room automation and technology space is contracting. It was bound to happen. Over the past few years, several vendors have introduced products designed to help pharmacists with compounding sterile products or meeting clean room regulatory requirements.

- *Aesynt* is now part of *Omnicell* and *CareFusion* is part of *BD*. *BD* has had more time to ramp up their messaging and it was obvious in their exhibit this year.
- The *Plus Delta Technologies* booth was empty. *Plus Delta's* products include **Pharmtrac.PD**, a medication tracking system, and **IVTtrac**, a semi-automated iv workflow management system. It is unclear whether the company has been sold, has gone belly up, or is simply keeping a low profile

- *APOTECA* was not present in the Midyear Exhibit Hall this year. If you recall, *APOTECA* is the company responsible for **APOTECAchemo,** a robot for compounding hazardous drugs. Last year about this time they introduced **APOTECAps,** a semi-automated iv workflow management system. The company was conspicuously absent.

⇒ There was a good number of booths offering clean room consulting. More than I've seen in past years.

⇒ *Aesynt* – previously McKesson Automation, now part of Omnicell – was focused on data analytics in the clean room with two new products: **REINVENT** and **Formulary Tool Kit** (FTK). I wrote about REINVENT after the ASHP Summer Meeting in Denver. [1] **FTK** is a tool designed to help pharmacies extend BUD in the cleanroom.

⇒ *BD* and *Baxter* seem to be running parallel races. *Baxter* had a press release at the meeting that focused on **DoseEdge** integration. *BD* did the same for **Cato**.[2] *Baxter* will be pushing their Epic integration in the coming year.

⇒ *Baxter* was showing off their **DoseEdge** scales for the first time ever at a Midyear event. **DoseEdge** has had gravimetric functionality for quite some time, but the concept has never been popular with their customers. Apparently that has all changed. Based on conversations with insiders, this appears to be a direct result of pressure from BD's gravimetric-centric approach.

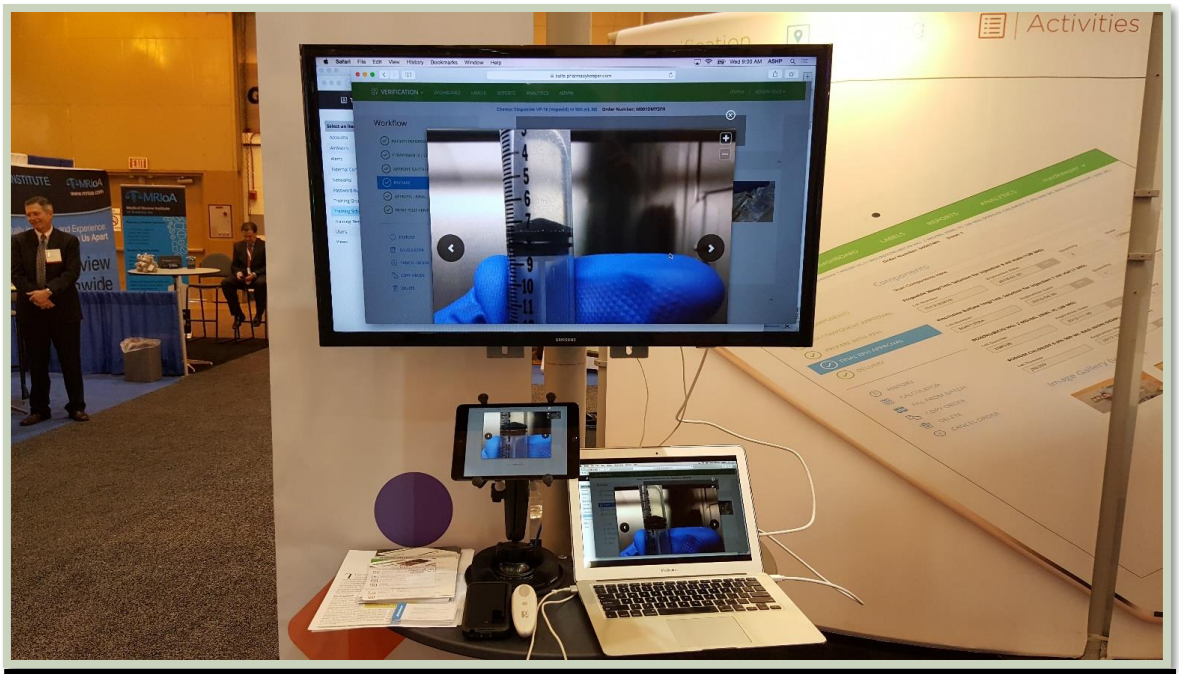


Imaging platform and scales from DoseEdge (left) and BD Cato (right)

⇒ *MedKeeper* showed off a new booth at Midyear with **Verification** front and center. **Verification** is *MedKeeper's* semi-automated iv workflow management system. Something that caught my eye while I was in the *MedKeeper* booth was the images captured by **Verification**. They're really quite good. I was especially surprised to find that some of the images I was looking at were taken from outside an isolator. That's right, the device was mounted outside the isolator, thus limiting the hardware in the hood.

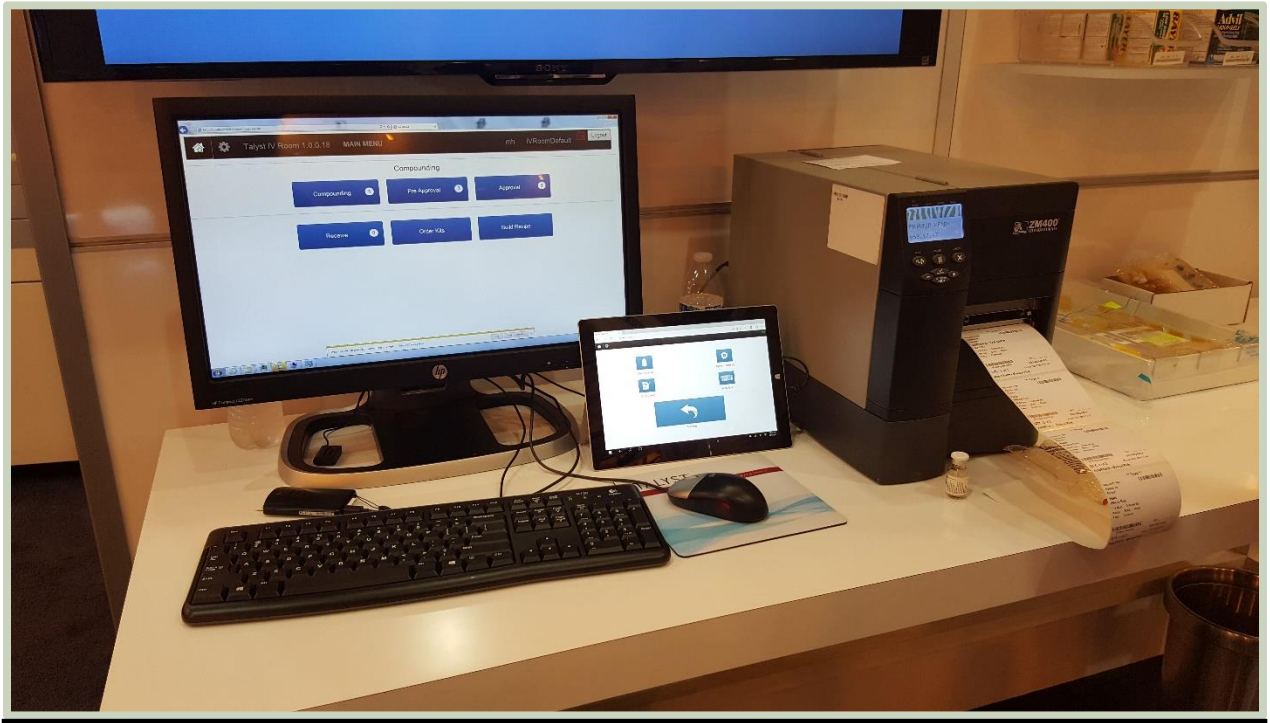
[1] "Cool Pharmacy Technology – Aesynt REINVENT [It's About the Data]". *Jerry Fahrni*. N.p., 11 June 2015. Web. 15 Dec. 2015.

[2] "BD Introduces Simplified Comprehensive IV Management." *BD Worldwide*. N.p., 7 Dec. 2015. Web. 9 Dec. 2015. http://j.mp/BD_ASHP15_PR



Verification by *MedKeeper* – images shown on screen taken from outside an isolator

⇒ *Talyst* had **Talyst IV Room** on display. **Talyst IV Room** is part of the company's mobile inventory management solution and offers users the ability to build IV kits utilizing barcode scanning for verification, as well as the ability to track sterile preparations throughout the compounding process.



Talyst IV Room product on display

⇒ *Grifols* introduced a new hazardous drug compounding hybrid robot**, Kiro Oncology**. **Kiro** is a bit different from previous robots as it uses two robotic arms to compound sterile preparations. It's an interesting concept.

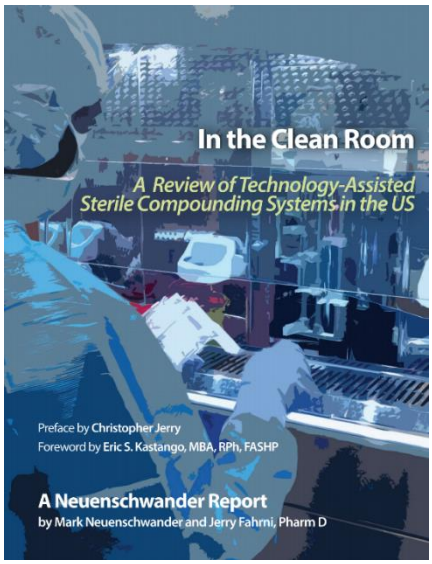


Kiro Oncology robot from Grifols

⇒ Compounding robots were out in full force: *Aesynt* with **i.v.STATION,** *ARxIUM* with **RIVA,** and *Grifols* with **Kiro Oncology**.

For a detailed look at technology in the clean room, make sure to check out *IN THE CLEAN ROOM: A Review of Technology-Assisted Sterile Compounding Systems in the US*.

IN THE CLEAN ROOM:
- ⇒ semi-automated iv workflow management systems
- ⇒ compounding robots
- ⇒ workflow software
- ⇒ bar-code scanning
- ⇒ image capture
- ⇒ image recognition
- ⇒ gravimetrics and volumetrics
- ⇒ the rationale for selection



RFID-ENABLED TECHNOLOGY

RFID-enabled technology was more prevalent at this year's ASHP Midyear than I can recall in previous years. Booths that had RFID-enabled products on display were typically busy, and the people in those booths were engaged in conversation.

Does this mean that pharmacy has finally turned the corner on RFID? Perhaps, but the technology still has some barriers, both real and perceived to overcome. It is clear to me, however, that RFID has niches in pharmacy and vendors are finding those niches.

Three booths that I thought were particularly busy were *MEPS Real-Time, Inc.*, *Kit Check* and *FFF Enterprises*.

⇒ *MEPS Real-Time, Inc*. was showing off their **Intelliguard RFID system**, which includes an RFID-enabled medication tray management system, controlled temperature cabinets (CTCs) – both refrigerated and room temperature - and a virtual logbook for tracking medication trays.

⇒ *Kit Check* had their "Little Blue Box" scanning station in the booth, which is part of their RFID-enabled medication tray management system. In addition, *Kit Check* was showing off their RFID-enabled **Anesthesia Check** system, which I thought was pretty cool. The design is well thought out and offers some nice functionality.

⇒ *FFF Enterprises* is a distributor of plasma products, vaccines, biopharmaceuticals, and biosimilars. Part of their product line includes **Verified Inventory Program-Consignment** (VIPc), which includes RFID-enabled refrigerators that offer automatic track and replenishment for their product line. *Cardinal Health* does something similar.

SencorpWhite was on hand with a small booth providing information on their RFID capable carousels. They didn't have a physical carousel in the booth as in previous years, but instead opted for literature and a looping video to support their product offering.

PharMEDium announced that they will be making pre-filled syringes with RFID tags embedded in the labels. This is big, but the announcement went unnoticed by many. I wouldn't have known about the move had I not been speaking to one of the vendors mentioned above. I verified this with one of the *PharMEDium* executives and was informed that the RFID-enabled pre-filled syringes will not be proprietary to any single company, and will be made available to anyone looking for pre-filled syringes with embedded RFID tags.

COLD CHAIN TECHNOLOGY

It has been clear for quite some time that refrigeration is going to be important for the next generation of pharmaceuticals, including biologicals. Pharmacies will need to invest in and utilize better security, as well as real-time monitoring for temperature, humidity, and inventory.

⇒ The exhibit hall was full of vendors offering real-time monitoring. Have a data connection, i.e. "the internet"? If so, then you have everything you need to use many of these systems. Vendors are offering cloud-based storage of information, which means anytime, anywhere access to data. Real-time

monitoring and alerts mean that pharmacy directors will have peace of mind that their pricey inventory is in date, properly stored, and in stock. It's a win-win.

⇒ All the major pharmaceutical grade refrigerator vendors had a presence in the exhibit hall: *Helmer*, *Follett*, *Migali Scientific*. Not to mention seeing many other vendors with one of these brands in their booth. Partnerships and alliances appear to be the most efficient method of ensuring that you can offer a refrigerated solution to your customers.

Some items that I felt were particularly interesting in the cold chain area:

⇒ RFID-enabled refrigerators. See the section on RFID for more detail.

⇒ The **Evolve** line of pharmacy-grade refrigerators from *Phononic* were quite impressive. These refrigerators are powered by SilverCore™ Technology. They have no compressor, meaning they have no mechanical parts, run quiet, use less electricity, and generate less heat. The refrigerators use solid-state heat pump technology coupled with a non-hazardous, non-toxic refrigerant. In addition, the units provide alerts for temperature, door, battery, memory, loss of Wi-Fi, and loss of power. Check the image below showing the solid-state "pump".



Phononic compressor-free refrigeration technology

⇒ **Vaccine Smart-Fridge**. I wrote about this back in November.[3] The **Smart-Fridge** is an interesting concept. The system offers single-point access to vaccines, providing real-time alerts on inventory shortages and temperature. Automated temperature monitoring ensures that things stay within their appropriate temperature range, and analytics and historical dispensing data are collected and made available to the user.

[3] "Cool Pharmacy Technology – Vaccine Smart -Fridge". *Jerry Fahrni*. N.p., 30 Sept 2015. Web. 15 Dec. 2015.

STRIP PACKAGING FOR AMBULATORY CARE

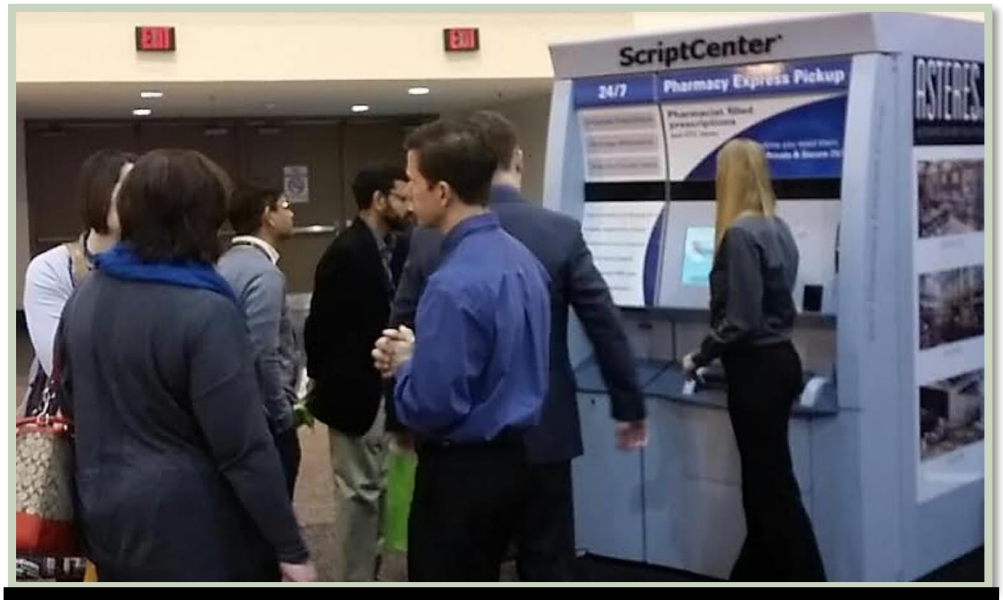
Strip packagers have been around for a long time. They were popular in acute care for a while, but not so much anymore. However, there appears to be renewed interest in the technology for use in ambulatory care pharmacy, especially as a method of improving medication adherence. I spoke to several strip packaging vendors that are seeing renewed interest in the technology. Most attribute this to the introduction of strip packaging as a medication adherence platform made popular by recent coverage of **PillPack**.

I wrote about PillPack back in February of 2014.[4]

MISCELLANEOUS

DYNALABS DVx™ Onsite Drug Verification System. **DVx** allows users to quickly and easily verify drug identity and strength (concentration) in real-time. The demo was impressive. The representative that I spoke with said that *DYNALABS* currently had a limited reference library, but were adding new drugs all the time.

ScriptCenter by *Asteres*. Think of **ScriptCenter** as something similar to the Amazon Locker model. Pharmacies fill medications, place them in the **ScriptCenter** kiosk, and allow users to pick them up at their convenience. Kind of an ATM-style solution to medication refill pickup. The system sends messages to patients when their prescription is loaded and ready. Users can pay with credit card or payroll deduction. You can even load OTCs into **ScriptCenter**. I spoke to Dana Darger, Director of Pharmacy at Regional Health in Rapid City, SD about ScriptCenter. He has been using the unit to provide employees with 24/7 access to medication refills. So far he's been pretty happy with the results. Dana commented that **ScriptCenter** has helped alleviate congestion in the outpatient pharmacy as well as give hospital employees easy access to their refills.

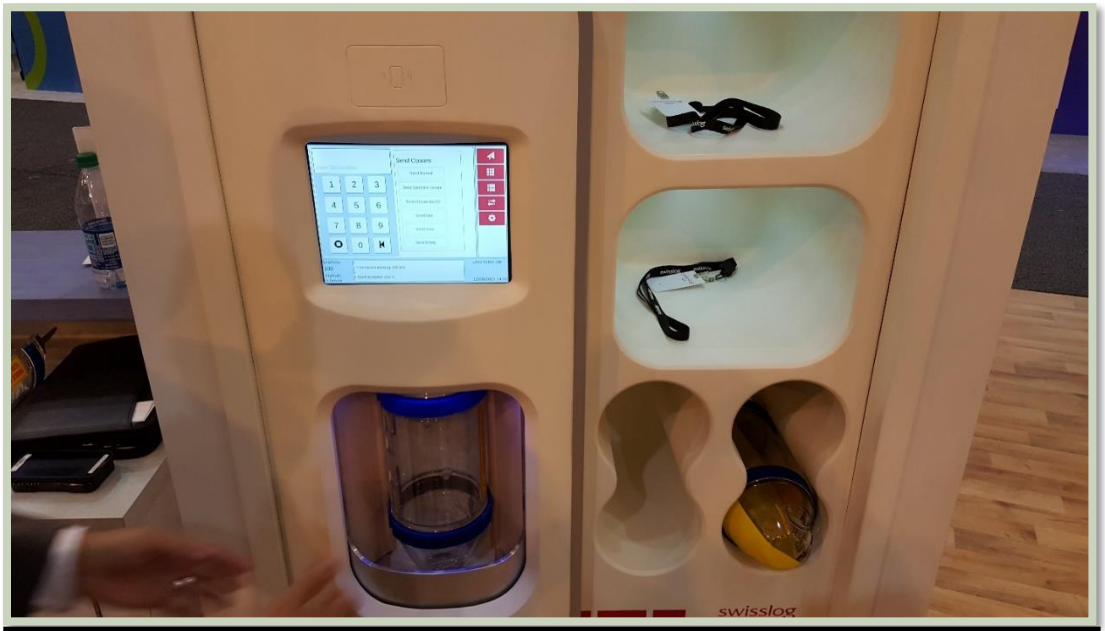


ScriptCenter by Asteres

[4] "PillPack: a new way of thinking about an old problem". *Jerry Fahrni*. N.p., 4 Feb 2014. Web. 15 Dec. 2015.

Cactus Smart Sink. I wrote about the Cactus Smart Sink while attending Midyear.[5] The **Smart Sink** is a pharmaceutical waste disposal container that renders its contents "unrecoverable, non-retrievable and unusable". It's small and unassuming. I thought it was pretty slick.

Swisslog Nexus Station. One has to wonder how a tube station can be exciting. Well, if you've ever worked in a pharmacy where items are queued up due to volume, then you'll appreciate the **Swisslog Nexus Station**. The **Nexus** allows users to load up to five tubes at a time in a Lazy Susan-like configuration. Tubes can be loaded as non-secure or secure and the Nexus will keep track. Much more efficient than a "one-up" tube station.



Nexus Station by *Swisslog*

Contact me for more information about my consulting services and speaking engagements.

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[5] "Cool Technology for Pharmacy – Cactus Smart Sink [#ASHPMidyear15]". *Jerry Fahrni*. N.p. 8 Dec. 2015. Web. 15 Dec. 2015.