

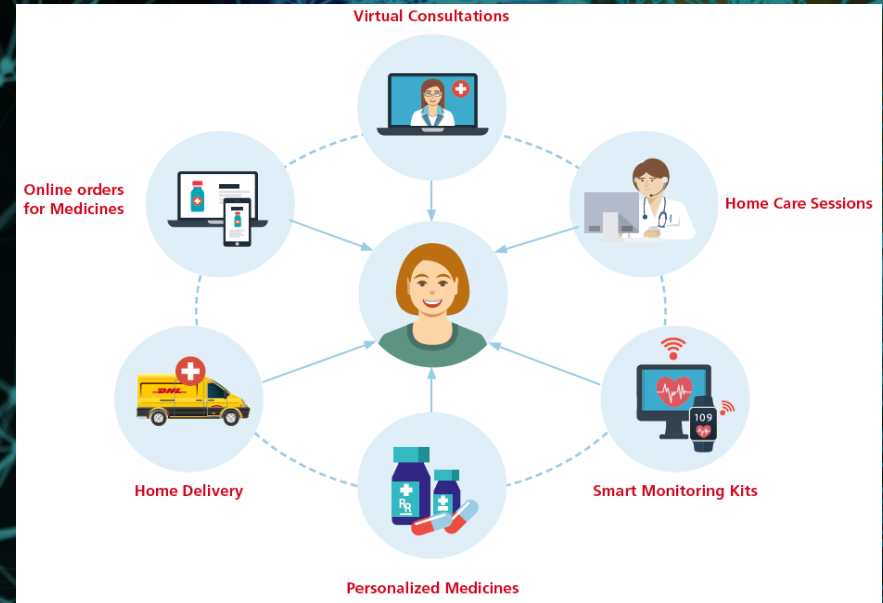
THE FUTURE OF LIFE SCIENCES & HEALTHCARE IN JAPAN





OBJECTIVE AND FORMAT

- Life sciences Logistics **needs to transform to meet evolving needs of patient centric healthcare approach**
- This working session will **identify & prototype key trends to shape the future of Japan 's LSHC sector;**
- To do this we will:
 - **Brainstorm** on key trends and innovations;
 - **Ideate on one key trend** and its applications for the sector
 - **Prototype the solution** using Legos;

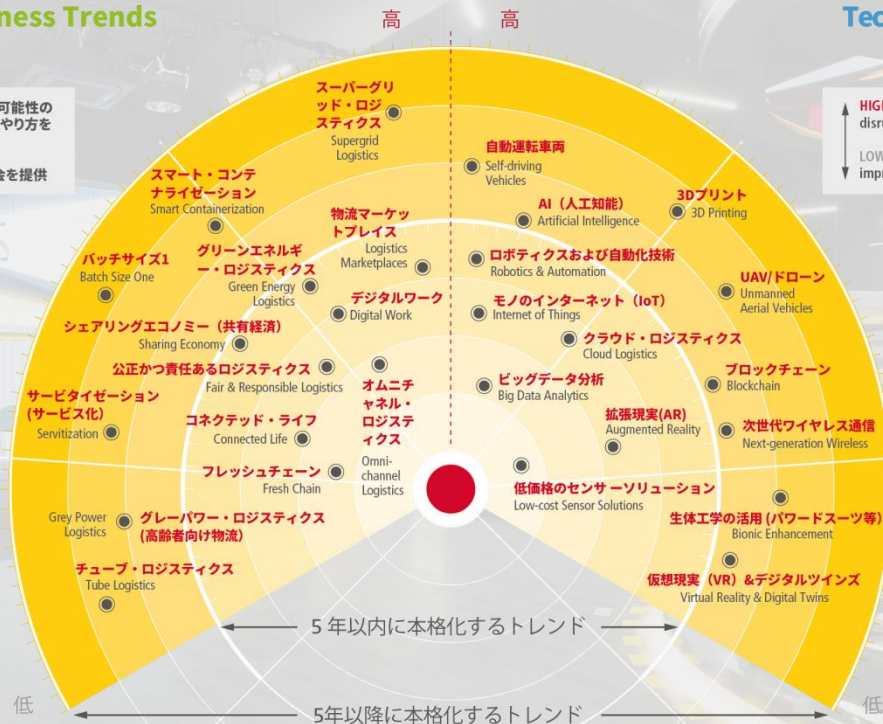


社会・ビジネスに関するトレンド Social & Business Trends

テクノロジーに関するトレンド Technology Trends

↑ 高: (従来の方法を覆す可能性のある) 新たなビジネスのやり方を創出
↓ 低: 漸進的な改善の機会を提供

↑ HIGH: Creates new (potentially disruptive) ways of doing business
↓ LOW: Provides incremental improvement opportunities



ROBOTICS IN LOGISTICS



Collaborative
Co-packing



Collaborative Order
Picking



Mobile Piece Picking



Swarm Conveying



Autonomous Cleaning



Autonomous
Identification

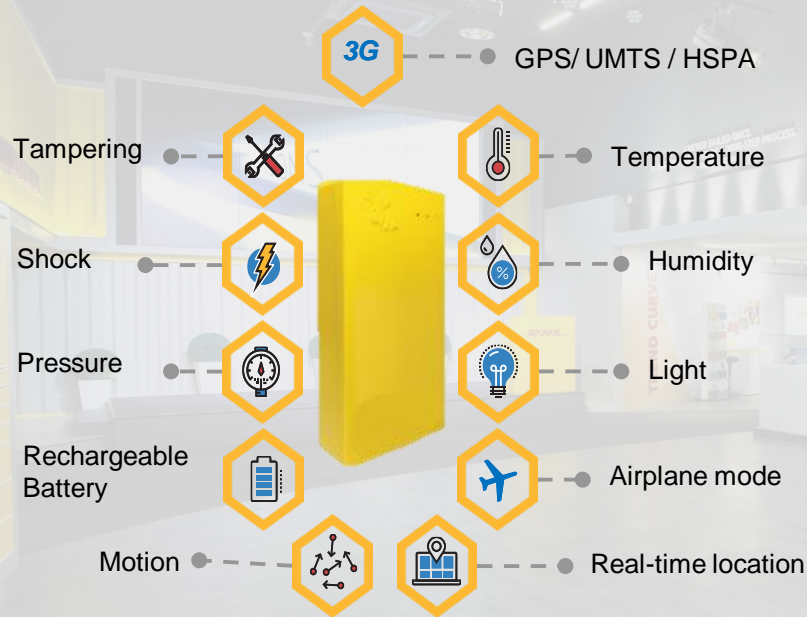
COLLABORATIVE CO-PACKING



YuMi Robot

- Tried in DHL Netherland operations
- Labeling of injector pen is automated
- YuMi kits injector pens, and send information to computer to label
- Once pens are printed, YuMi holds pen under camera to ensure labeling is correct
- Based on check, YuMi can either pack or discard the pen

FROM 2G TO 3G TO FUTURE SENSOR NETWORKS



DHL IoT Solutions for Visibility

- Modern **tracking & tracing** by active devices (3G, Wifi, BLE) including comprehensive set of data
- Multiple **beacons** attached to mother device (acts as gateway) lead to **sensor family**
- **End-to-end** visibility intra- and interlogistic
- **Plug-and-play** mobile solution

NEW PASSIVE NFC-BASED CONDITION MONITORING SOLUTION

Passive NFC Tag



DHLTag App

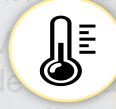


- **Easy to use** 簡単に操作
- **Low hardware requirements**
シンプルなハードウェアで利用可能
- **Usable of third parties & in remote areas** 第三者、遠隔地での使用が可能
- **Direct visualization and upload of data**
ビジュアル化 ・データアップロード
- **Cost efficient**
費用削減



Consolidation of shipping with routing data

輸送ルート・データの集約



Instant analysis of shipment temperature data

温度データの迅速な分析



Fast information access & product clearance

より速い情報へのアクセスとプロダクトの透明性

Solution : Connecting our family of divisions and clinical trial stake holders



NEXT STEPS AHEAD?

- Convergence of technology
- Innovation to drive growth
- Partnering together

Are you ready for the future?