



SERVIÇOS LOGÍSTICOS

ESCUTE

PERGUNTE

OBSERVE

Prof Dr Orlando Fontes Lima Jr

LALT Laboratório de Aprendizagem em Logística e
Transportes

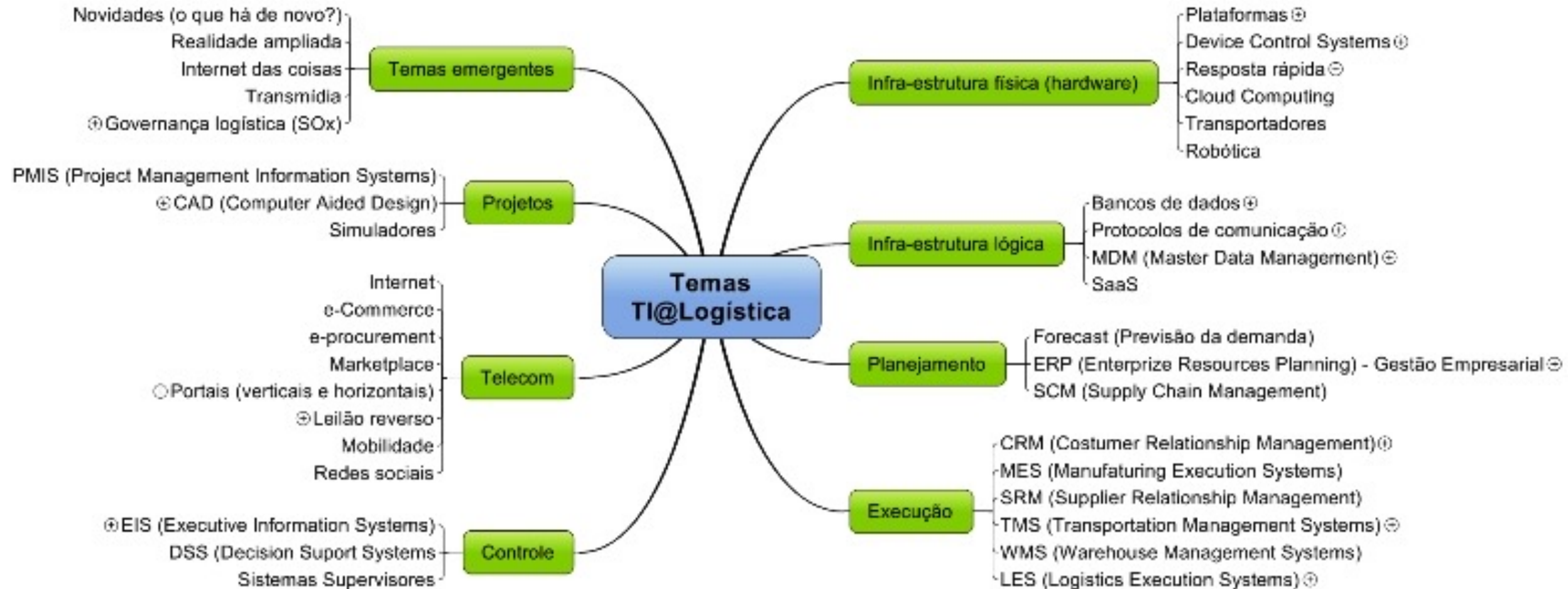
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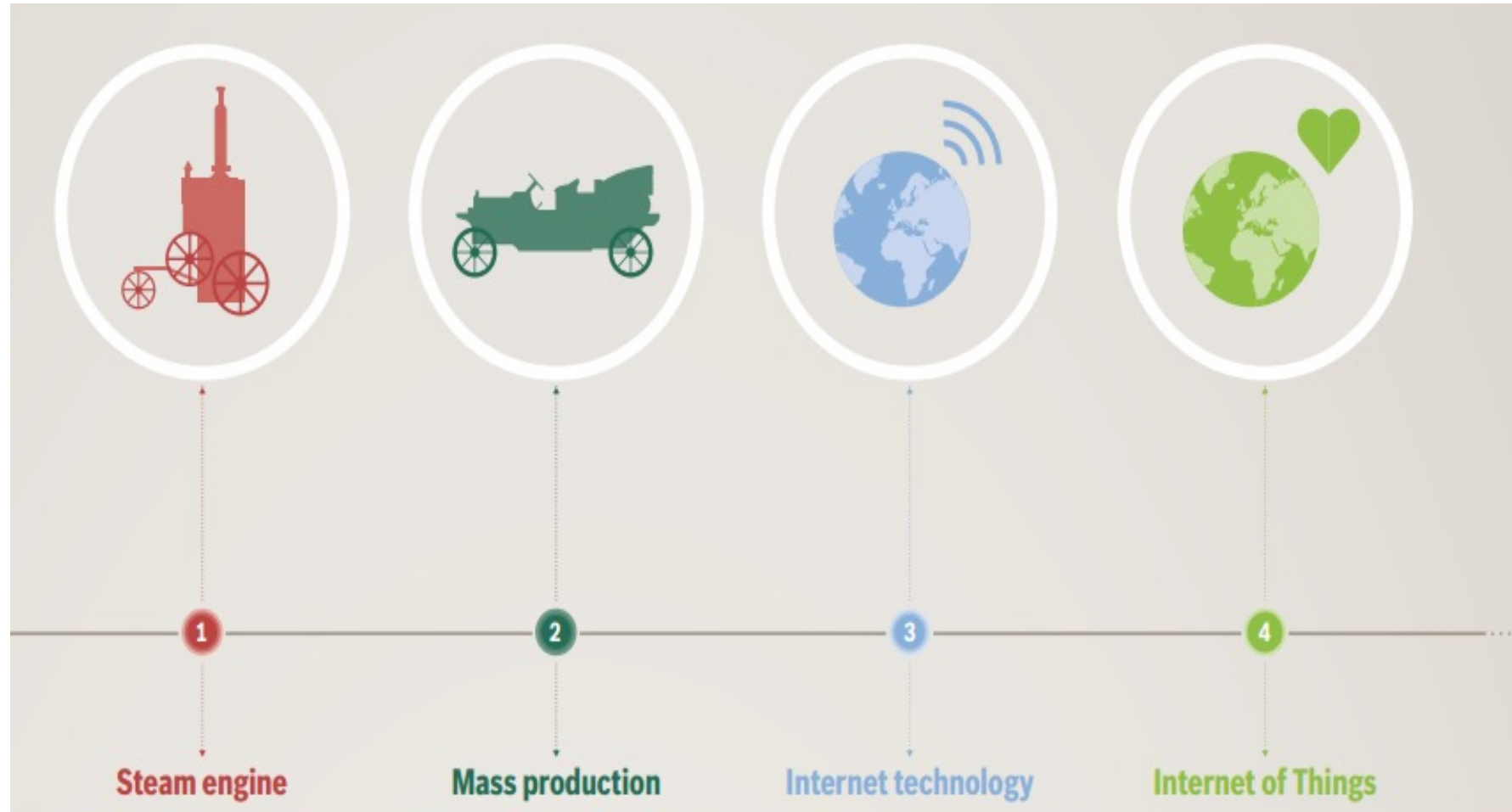
Programação das Aulas

	DATA	ATIVIDADES
1	22/03	Gestão Integrada da Logística
2	29/03	Gerência de transportes
3	05/04	Gestão da armazenagem e movimentação
4	12/04	Planejamento da oferta e demanda (estoques, vendas e produção)
5	19/04	Logística Reversa e Sustentabilidade
6	26/04	1ª Avaliação
7	03/05	Gestão das redes de suprimentos
8	10/05	Comércio Exterior e Logística Internacional
9	17/05	Gestão Estratégica de Compras
10	24/05	Lean logistics
11	31/05	Conceitos avançados de logística e supply chain
12	07/06	Finanças e custos aplicados à logística
13	14/06	TIC aplicada à logística
14	21/06	Marketing de Serviços Logísticos
15	28/06	2ª Avaliação

Aula 12

- Softwares de Gestão e Produção de Logística;
- Logística 4.0 e Tecnologias Disruptivas;
- Tendências Cyber security, blockchain, IoT





TENDÊNCIAS PARA A LOGÍSTICA

SUSTENTABILIDADE COMO PARTE DA ESTRATÉGIA

CULTURA ORGANIZACIONAL, CIDADANIA, VALORES E ÉTICA

GESTÃO DE RISCO, PLANOS DE CONTINGÊNCIA E REDUÇÃO DE DISRUPTURA

DEMAND CHAIN MANAGEMENT

LOGÍSTICA HUMANITÁRIA

AUTOMAÇÃO E ROBÓTICA

SOCIOLOGIA E ANTROPOLOGIA DA MACROLOGÍSTICA

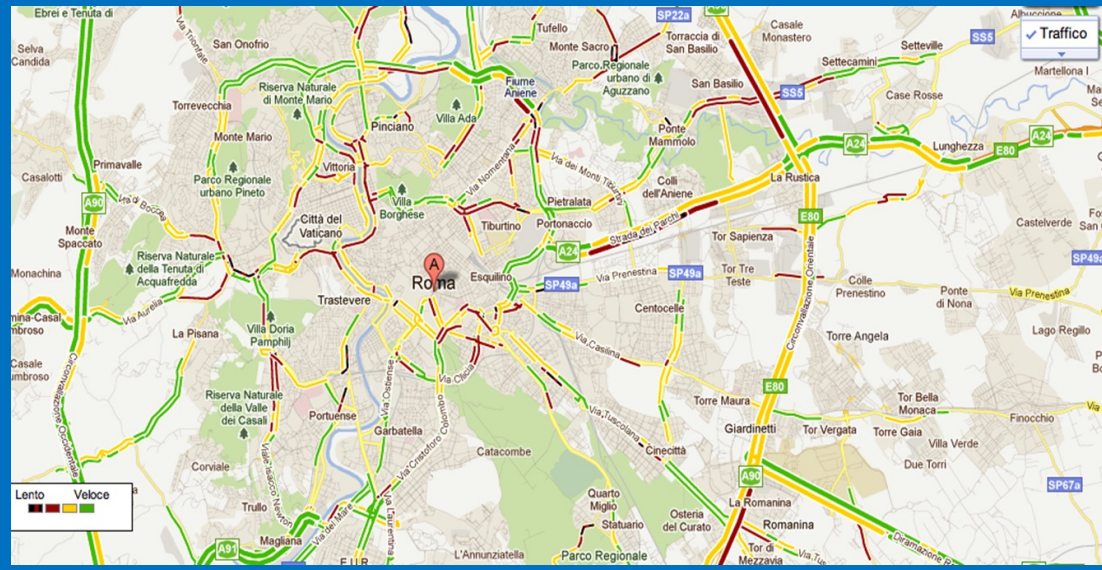
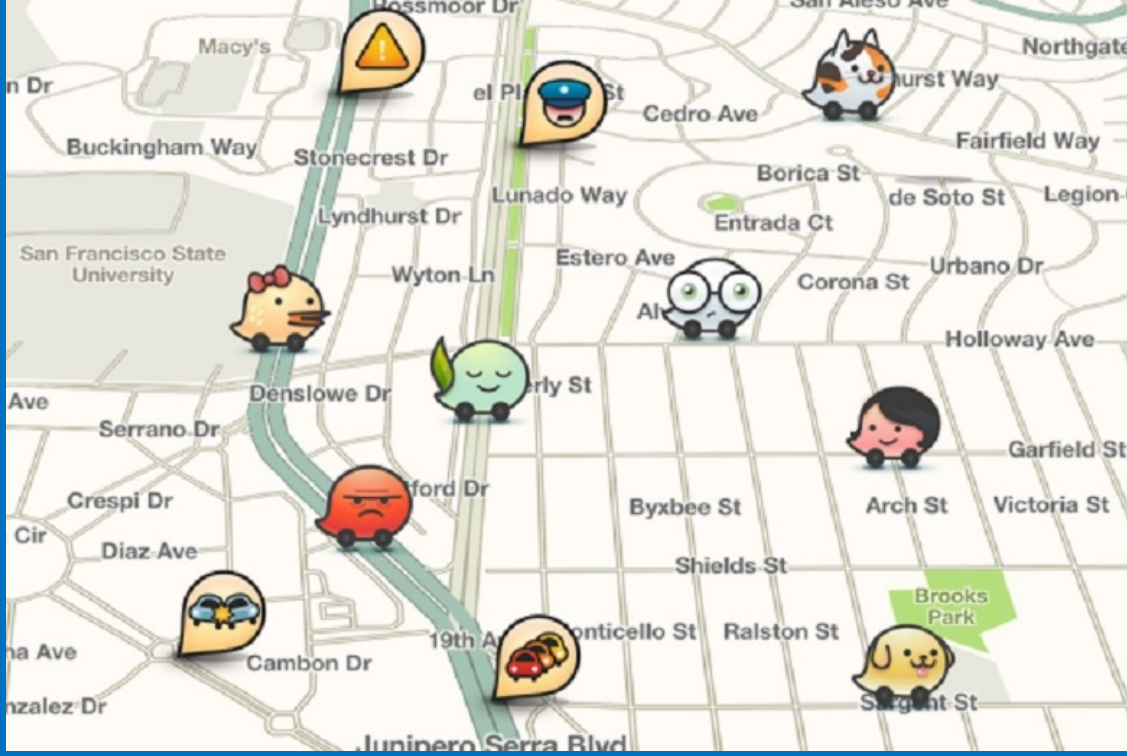
REDES SOCIAIS

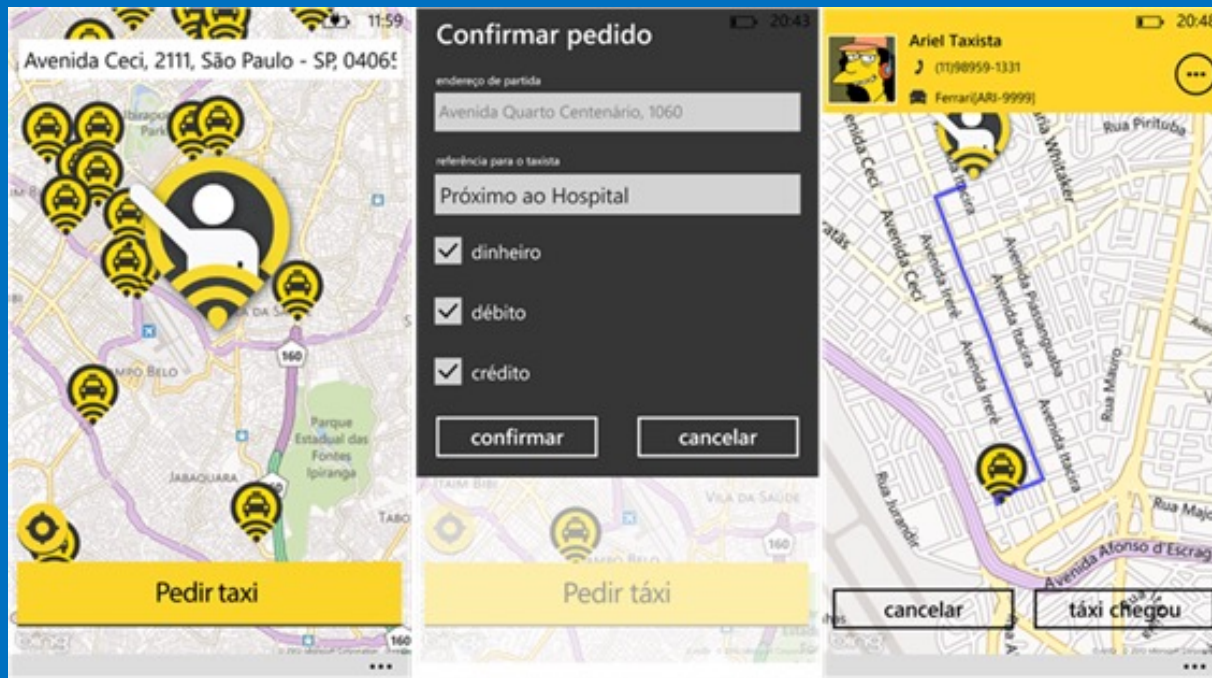
LOGÍSTICA URBANA

INTERNET DAS COISAS

GOVERNANÇA DO SCM E DOS *STAKEHOLDERS*







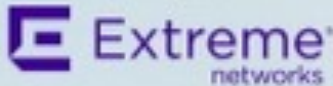


The Internet of Things

A TRILLION DOLLAR MARKET

40

IoT Solutions – 2014



Hydroponic System

Niwa is a hydroponic system that allows you to grow plants in water. It ensures the plants get the right amount of water and nutrients.

<http://www.niwa.com>

Smart Propane Tank

This super smart propane tank has a gauge that can be controlled via a mobile device. So when you're out there, you can see how much propane you have left. It's time to get smart!

<http://www.quirky.com>

HAPIfork

Smart Washing Machine

Smart Aqualtis is the first Indesit Company washing machine designed to be integrated in 'Smart' ecosystems, covering a wide range of use cases.

<http://zigbee.org/Products/ByStandard/AllStandards.aspx>



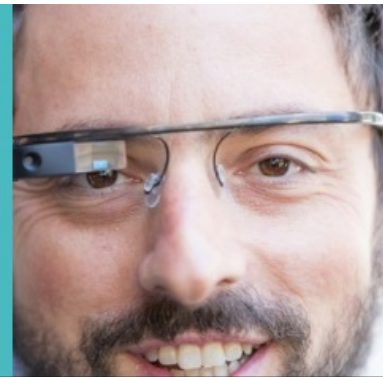
Pebble



Air-Fi AF32

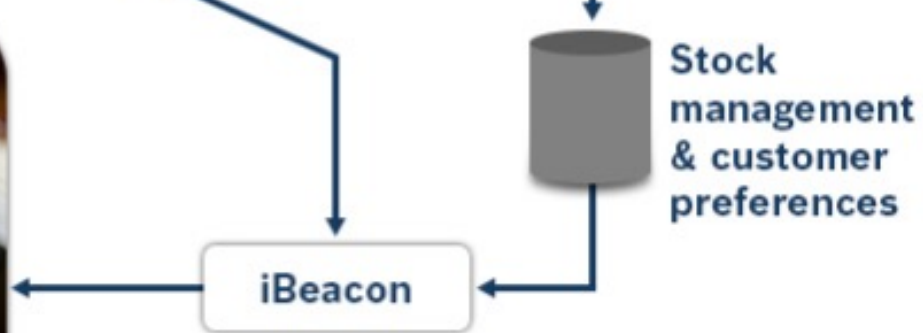


fitbit FLEX



Google Glass





Typical Views of the Internet of Things



Industrial Automation



Smart Health



Smart Home



Smart City

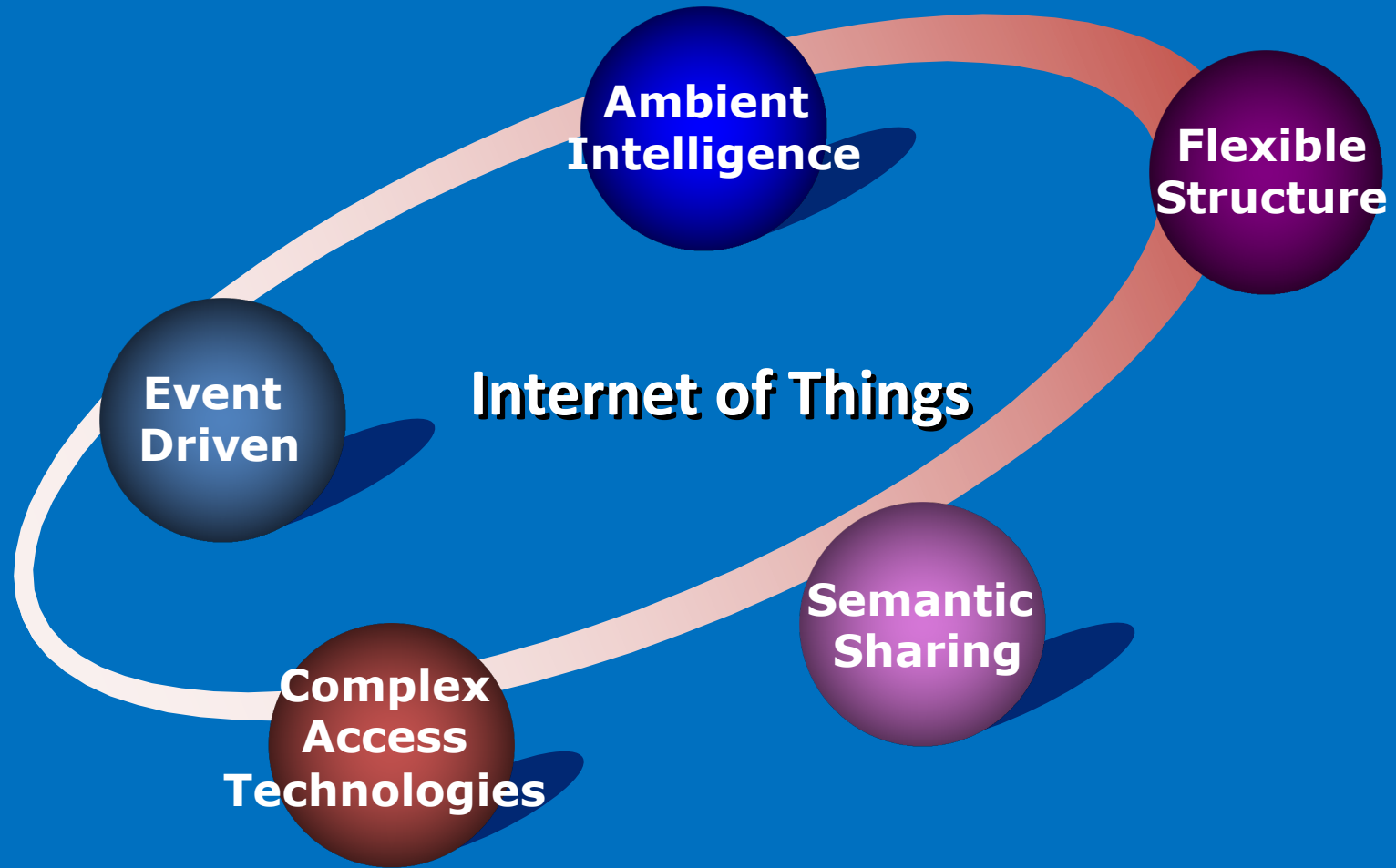
The Internet of Things

- The term Internet of Things was first used by Kevin Ashton in 1999.
- Refers to uniquely identifiable objects (things) and their virtual representations in an Internet-like structure

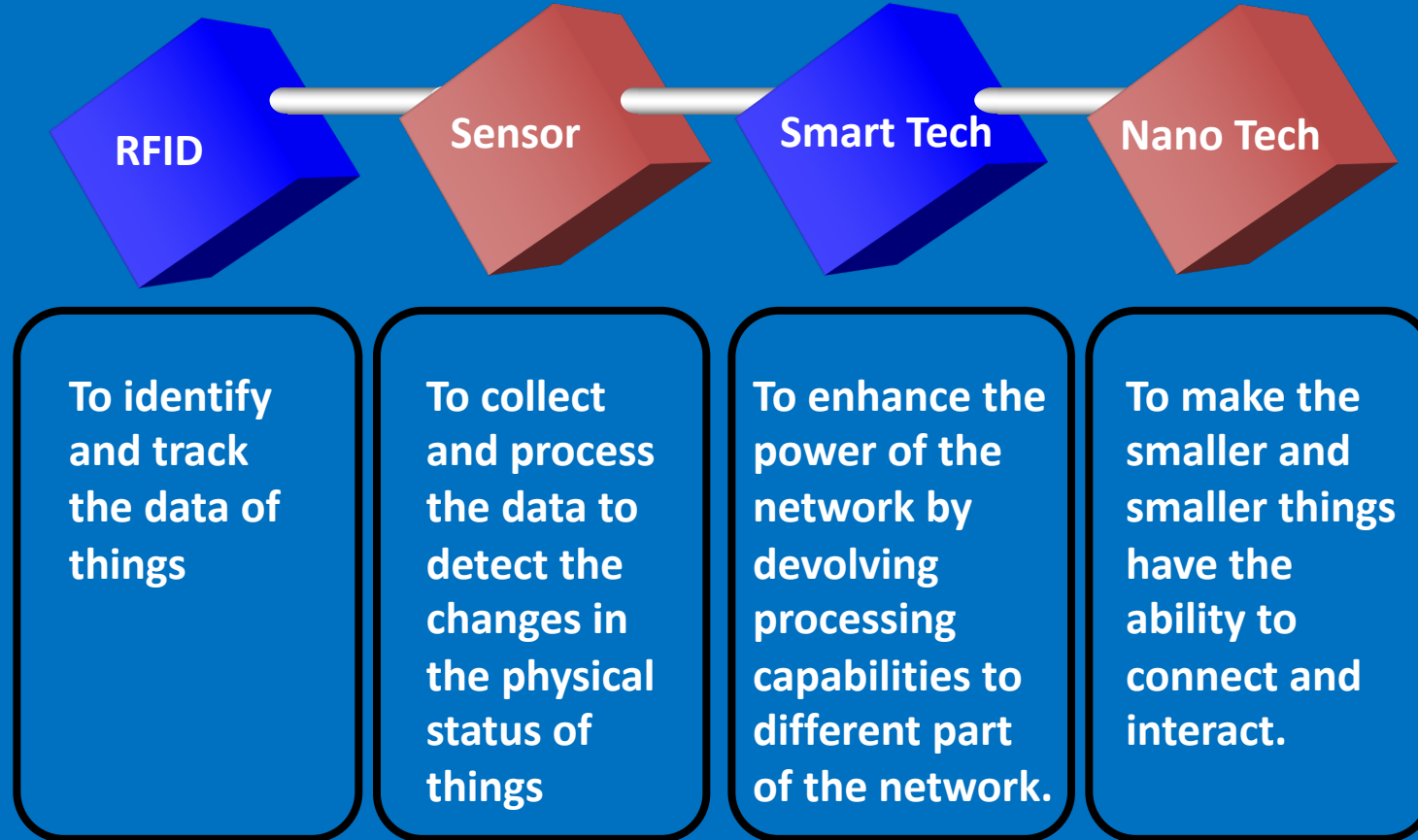


The Internet of Things, also called The Internet of Objects, refers to a wireless network between objects, usually the network will be wireless and self-configuring, such as household appliances.

Characteristics



Enabling Technologies



To identify and track the data of things

To collect and process the data to detect the changes in the physical status of things

To enhance the power of the network by devolving processing capabilities to different part of the network.

To make the smaller and smaller things have the ability to connect and interact.

RFID



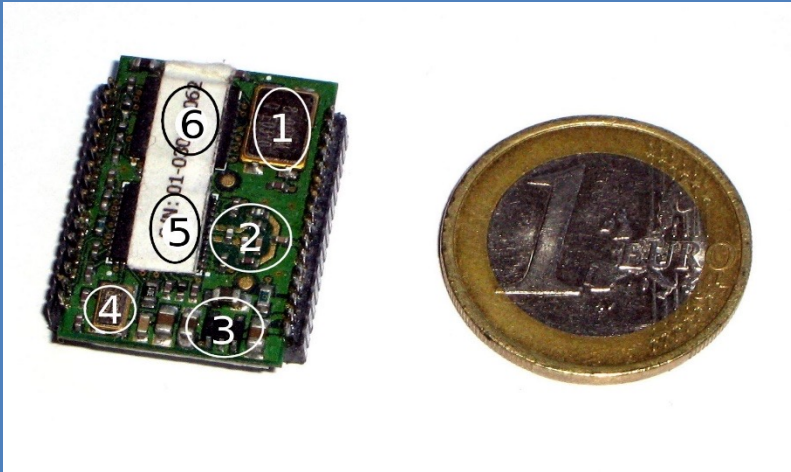
WiFi



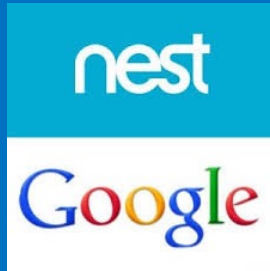
Barcode e QR Code



ZigBee



Sensors and SmartPhones



Google closes \$3.2 billion purchase of Nest



The acquisition brings with it the Learning Thermostat and the Protect smoke and CO detector as Google looks to make its mark in the smart home.

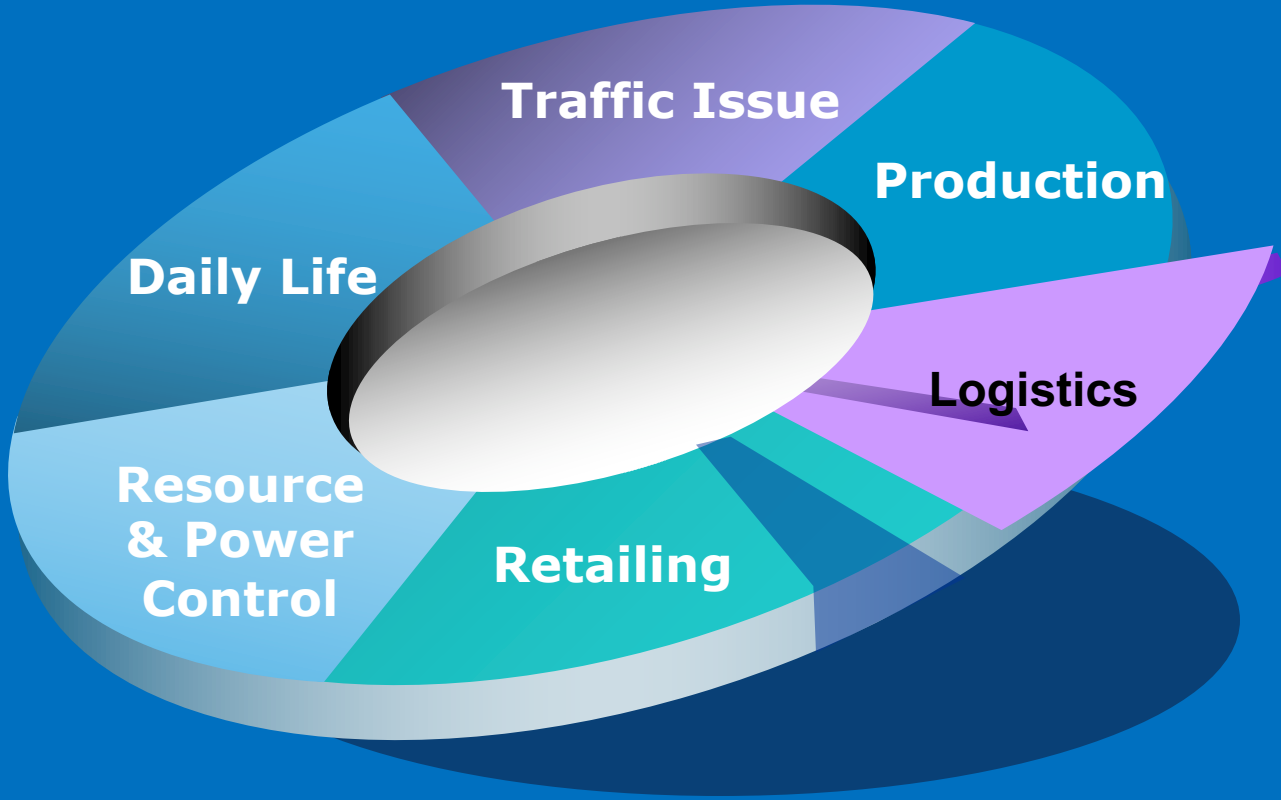
Technical Perspective

Sensing Layer

Communication Layer

Management Layer

Future of IOT



Internet of Things in Logistics



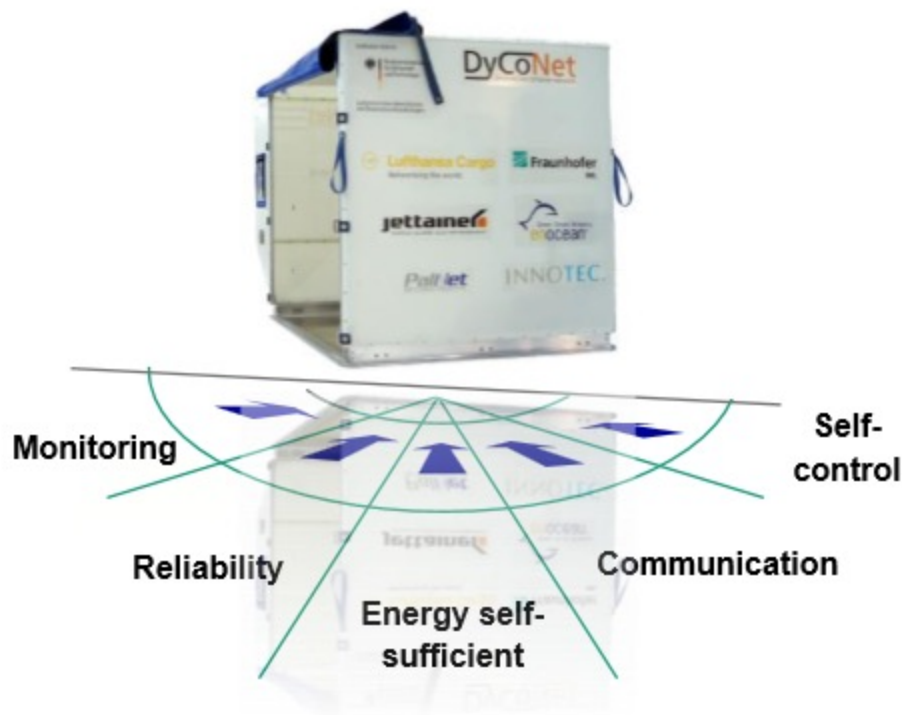
Schuster Architekten Düsseldorf

EPOSS Annual Forum 2012

Andreas Nettsträter



Smart and energy self-sufficient air freight containers (ULD)



Application Requirements

- Worldwide, decentralized self-control of air freight containers
- Sensor data to monitor shipment status
- Reliability and Robustness upon application use

Innovative Challenges

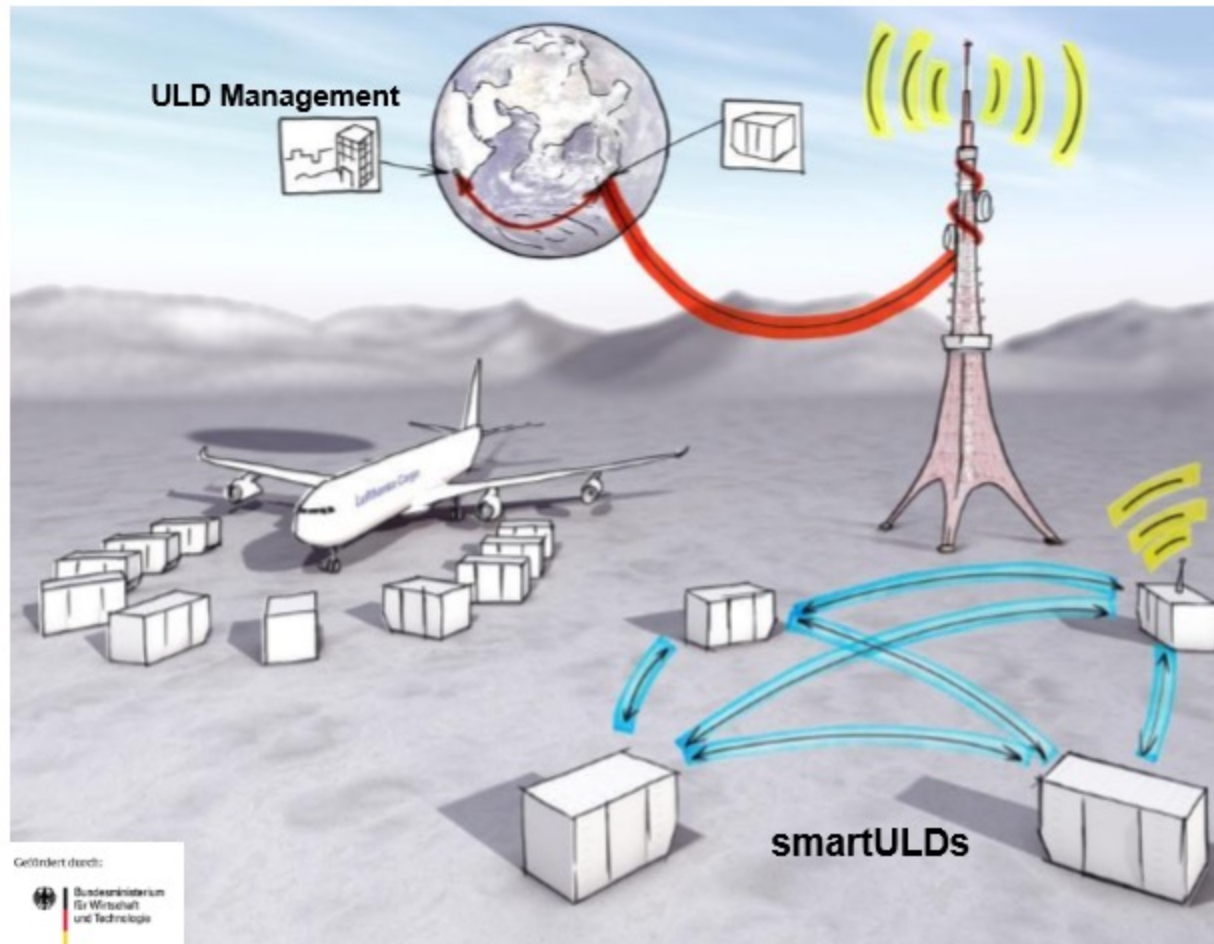
- Components with self-sufficient energy source
- High-performance Sensors
- Synchronized information and material flow through process in realtime

Geändert durch:



aufgrund eines Beschlusses
des Deutschen Bundestages

DyCoNet – Smart air freight containers (smartULD)



Geträgt durch:



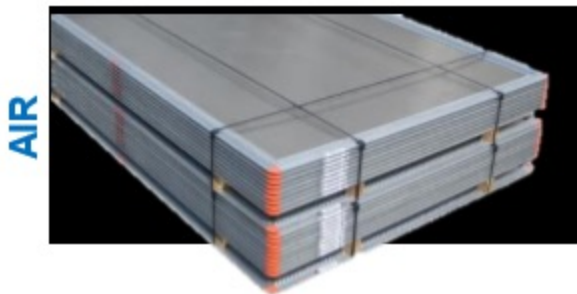
aufgrund eines Beschlusses
des Deutschen Bundestages

- **Sensor monitoring**, trigger alarms autonomously (Temperature, GPS, ...)
- **Internet connected** (GSM based)
- **ad-hoc networks** of ULDs (e.g. 802.15.4)
- **energy harvesting** enabled (e.g. solar, vibrations)
- Integrated **RFID-based** identification of goods
- Ground-handler interaction (NFC)
- **Vehicle-ordering**

SmaRTI – Smart objects control logistic processes



- **Smart post boxes** for German postal letter network,
 - which communicate with multi-frequency transponder and different protocols and route themselves through networks



- **Smart air freight pallets**,
 - send data on position, shipment and environment in world-wide network of Lufthansa Cargo with energy self-sufficient systems



- **Smart wooden pallet with innovative radiofrequency (RF)- and IT-infrastructure**,
 - controls autonomously the material-flow of REWE's supply chain to the customer within Germany

Cellular Transport Systems



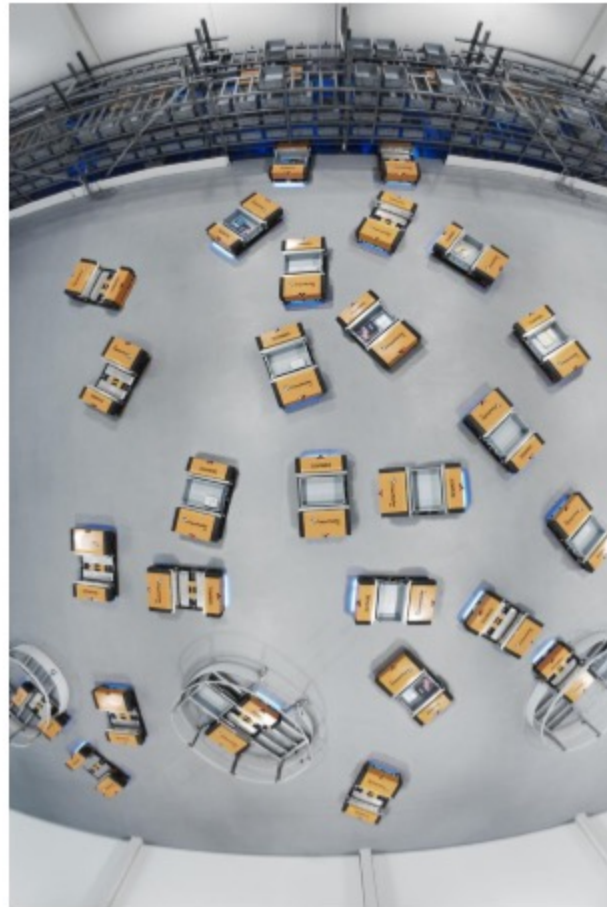
Ministerium für Innovation,
Wissenschaft, Forschung und Technologie
des Landes Nordrhein-Westfalen



- Swarm of 50 autonomous transport vehicles:
 - Autonomous behavior of every single shuttle, e.g. collision avoidance, safety tasks
 - Swarm is responsible for the task of transportation, e.g. scheduling is done in the group

- Increase flexibility and changeability
 - Simple scale-up and scale-down
 - Replace inflexible conveying systems by autonomous transport vehicles

Cellular Transport Systems



- One drive, two gears
 - Rail guided inside storage rack
 - Free navigation on floor
- Unit loads up to 40 kg and 600mm x 400mm
- Load handling device for single or double-deep storage
- Multi energy supply concept for different battery technologies
 - Lead-acid
 - Lithium-iron-phosphate
 - Lithium-ion



Cellular Transport Systems

“Swarm intelligence” for logistics and supply chains

- Size / floor area: 1,000 m²
- Opened: Mid 2011
- Largest experiment for artificial intelligence in logistics

LivingLabs at Fraunhofer IML



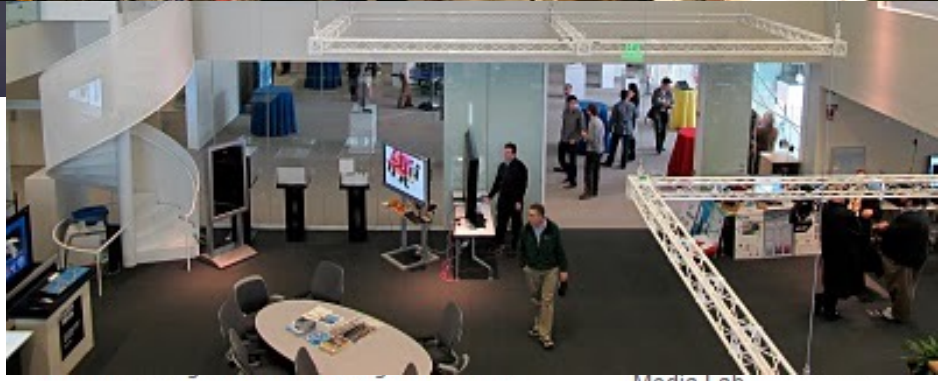
openID-Center

- An open platform for logistics software and autoID systems
 - Size / floor area: 1,500 m²
 - Opened: 2006 / modern. 2011
 - Open integration platform for autoID technologies



Energy Efficiency Test Facility

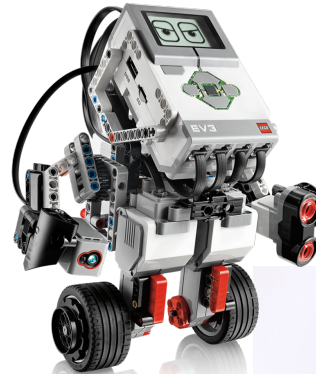
- MF system with belt and roller conveyors, RFID readers and light barriers
 - Energy measurement of 140 drives
 - Evaluation system for decentralized control strategies



Media Lab

Play Inspires Creativity

Consumer products are becoming hyper connected, great examples of potential.



ENCHANTED OBJECTS

ORGANIZING THE INTERNET OF THINGS BY HUMAN DESIRES





GlowCap® remembers so you don't have to.

Discover a new approach to medication management through reminders, social feedbacks, financial incentives and automatic refills. Inside the cap, a chip monitors when the pill bottle is opened and wirelessly relays alerts, through the AT&T Mobile Broadband Network, to you or your caregiver. A push button at the base of the lid makes refills easier than ever.



Vitality is dedicated to improving the management of medication for patients and healthcare professionals.

Soon the GlowPack™ will complement the GlowCap® to monitor adherence for sirups, inhalers, ointments and blisters.



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information at a glance.



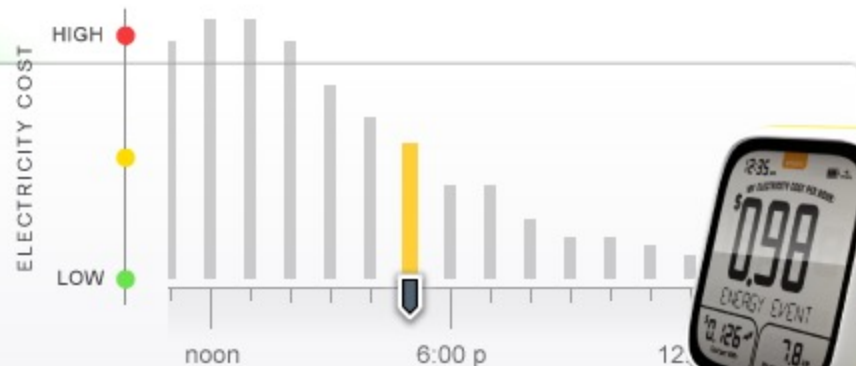
Energy Orb

With **more power**,
people use **less energy**.

Here's how we do it.

Information at a glance. Ambient Devices is the leading provider of displays and systems that deliver instant, effortless access to information at a glance. Ambient's energy products, including the Energy Orb and new Energy Joule, offer utility companies a simple way to relay details to their customers about how energy usage patterns are affecting pricing, in real-time. By outfitting homes and businesses with Ambient's energy products, utility companies can encourage smarter energy choices and increase overall customer satisfaction.

[Learn more about the science & philosophy of Ambient](#) ▶



A simple, familiar, traffic-light color scale quietly alerts you to pricing changes throughout the day.

Energy Joule

For consumers

PRICING DATA

For energy providers



LABORATÓRIO DE APRENDIZAGEM
EM LOGÍSTICA E TRANSPORTES



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- Especialização / Extensão
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Eventos

- GEL
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- Palestras

LALT lança o livro **Inovação em Logística - Volume 1**

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Inovação em Logística

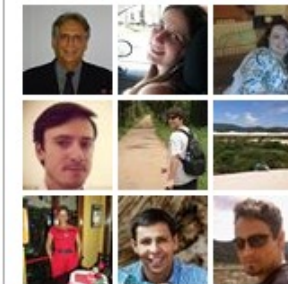
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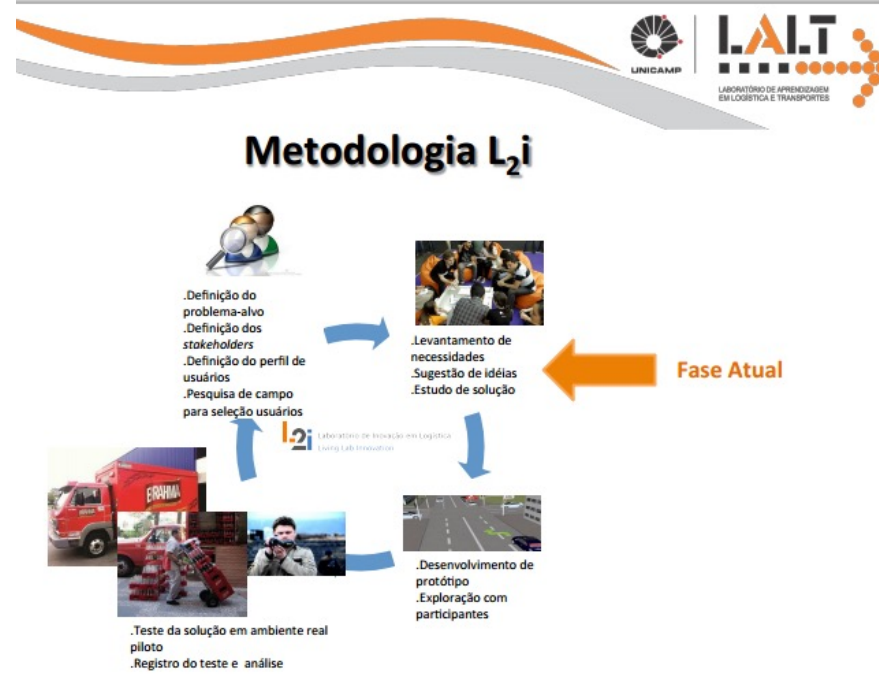


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Projeto Inicial L₂i

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Home Cidades Mapas Interativos Estatísticas Ferramentas Dados Relatórios

Região Central
Atualizado dez27, 2012

Situação-problema de logística urbana: entregas de bebidas na região Central de Campinas.

Problemas identificados:

- Vias estreitas
- Sistema viário inadequado
- Congestionamentos
- Falta de planejamento
- Falta de vagas para carga / descarga
- Falta de segurança pública

2014 | Maria de Lourdes F. Cassiano Dias



Desenvolvimento de um protótipo de embalagem

Caixa "MAX" que possui os seguintes

- Identificação certa (RFID)
- Lugar certo (GPS)
- Hora certa (GPS)
- Forma correta
 - temperatura (datallogger);
 - umidade relativa (datallogger)
 - pressão ;
 - vibração (acelerômetro)

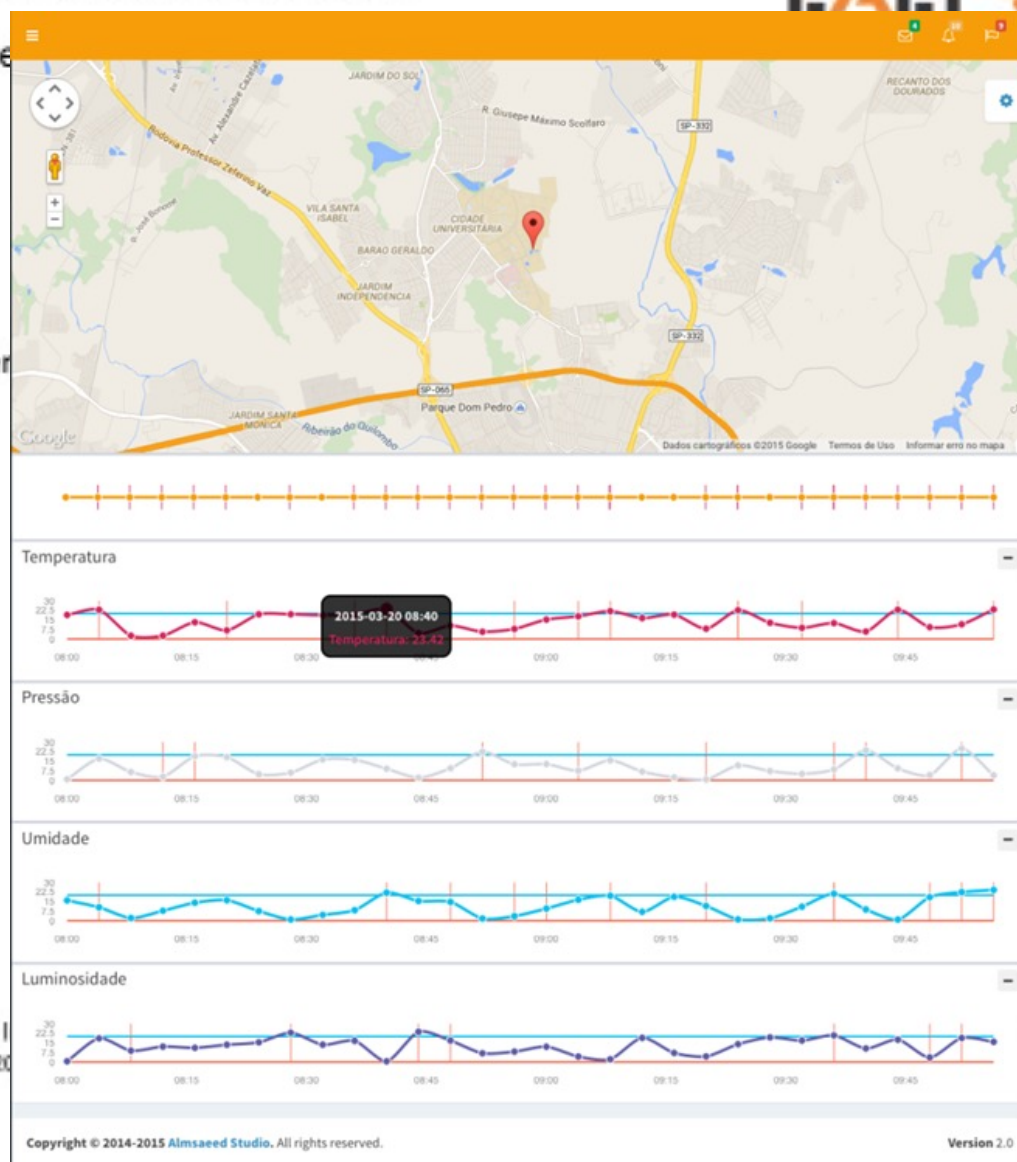
- Custo certo



Max

Caixa com o dispositivo


Baseado no Modelo de IoT apresentado no "Introduction to a New Age of Intelligence", 2014



Arduino - Home

ino.cc

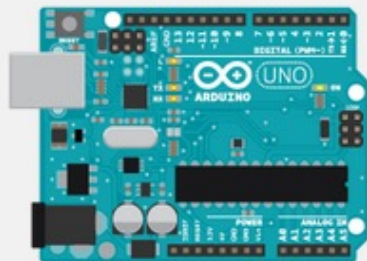
Movimento Empre... Phdcomics Comics Mendeley reference... Save to Mendeley Critico do Correio el... G1 - Fuvest e Unica...



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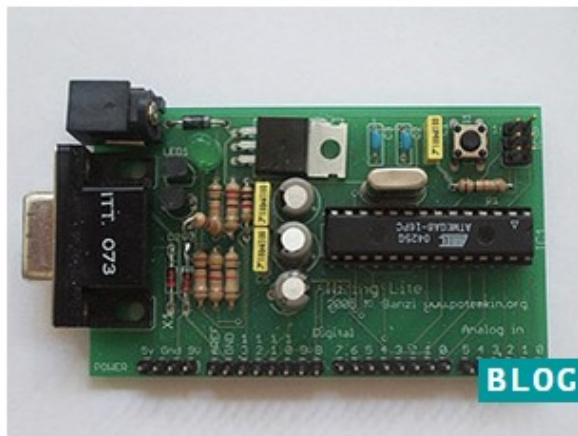
WHAT IS ARDUINO?



BUY AN ARDUINO



LEARN ARDUINO



THE ARDUINO EXPERIENCE
AT COMPUTER HISTORY
MUSEUM



Maker Faire
THE EUROPEAN EDITION

CALL FOR MAKERS

SUBMISSION DEADLINE MAY 31

MAKERFAIREROME.EU

HURRY UP!



MINDSTORMS EV3 IN ACTION

Watch Video

READY TO BUILD YOUR FIRST ROBOT?

Build a Robot

BUILDING CHALLENGE

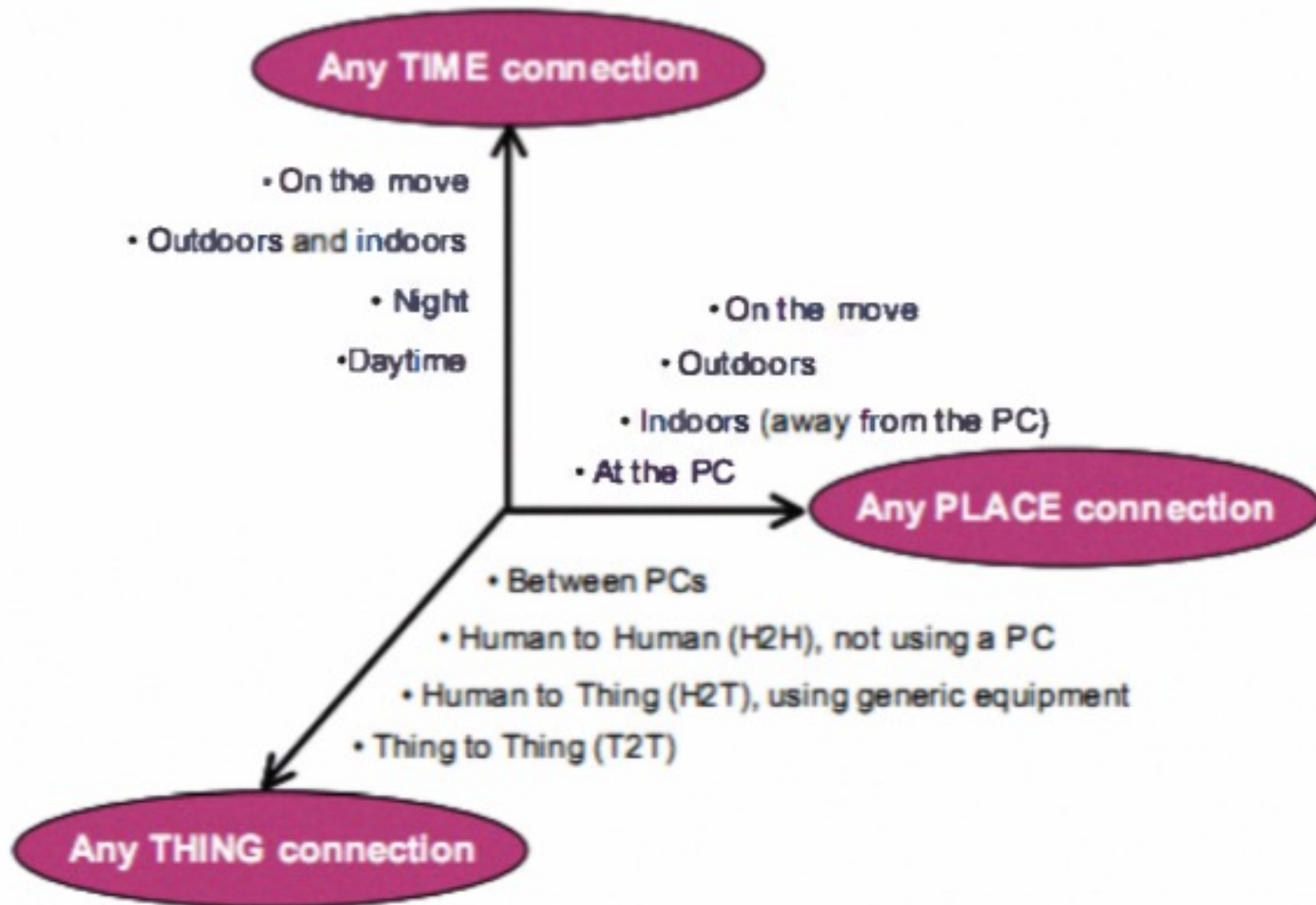
PLAY THE GAME

ROBOT COMMANDER APP

DOWNLOADS

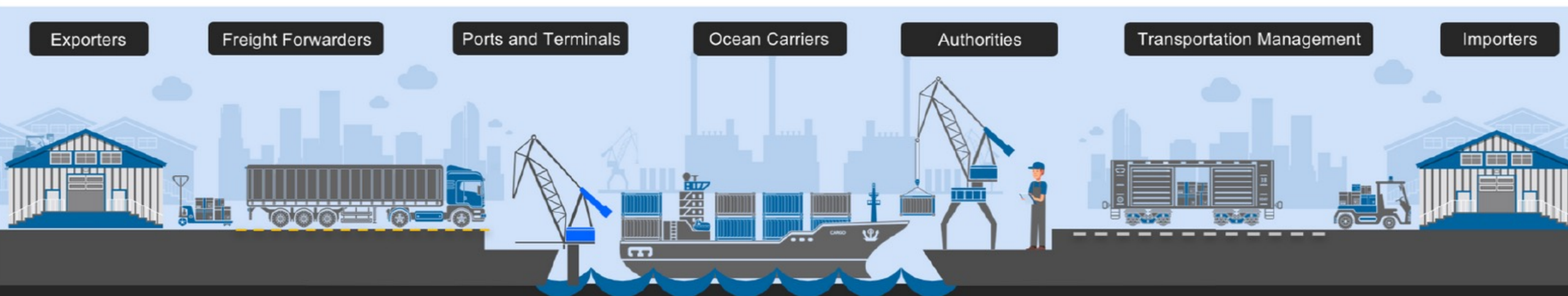
WINNER ROBOT

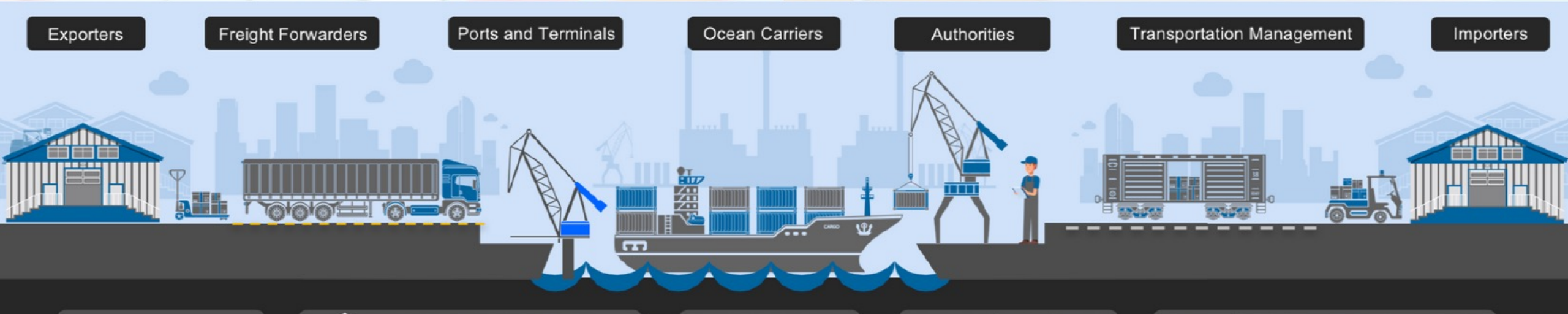
SUPPORT



Blockchain, hein?

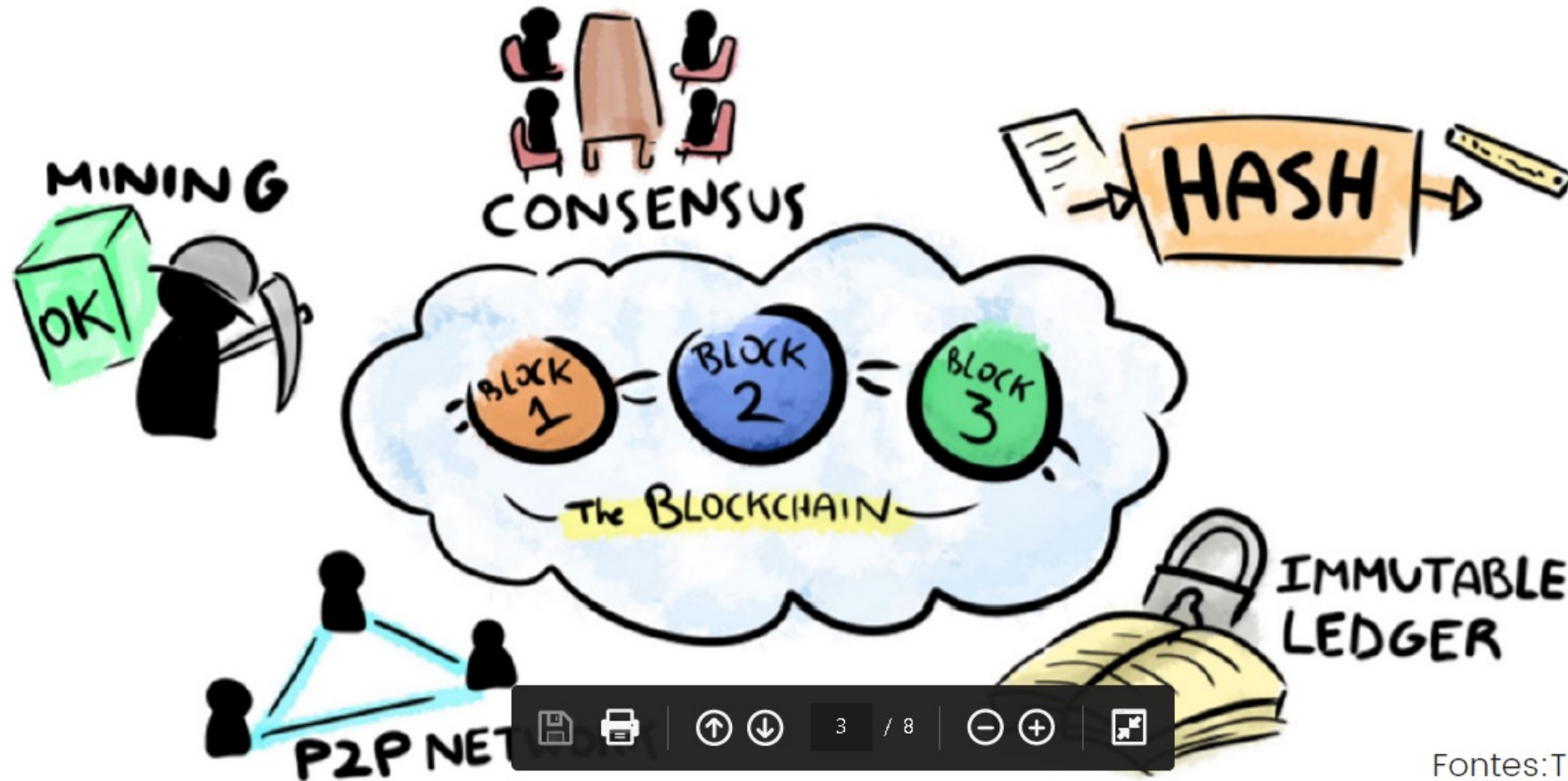
ORLANDO FONTES LIMA JUNIOR





Don & Alex Tapscott

“O blockchain é um livro digital incorruptível de transações econômicas que pode ser programado para registrar não apenas transações financeiras, mas praticamente tudo de valor.”



Summary of Features of top 5 Blockchain Platforms for Enterprises

	Ethereum	Hyperledger Fabric	R3 Corda	Ripple	Quorum
Industry-focus	Cross-industry	Cross-industry	Financial Services	Financial Services	Cross-industry
Governance	Ethereum developers	Linux Foundation	R3 Consortium	Ripple Labs	Ethereum developers & JP Morgan Chase
Ledger type	Permissionless	Permissioned	Permissioned	Permissioned	Permissioned
Cryptocurrency	Ether (ETH)	None	None	Ripple (XRP)	None
% providers with experience ¹	93%	93%	60%	33%	27%
% share of engagements ²	52%	12%	13%	4%	10%
Coin Market Cap ³	\$91.5 B (18%)	Not applicable	Not Applicable	\$43.9 B (9%)	Not Applicable
Consensus algorithm	Proof of Work (PoW)	Pluggable framework	Pluggable framework	Probabilistic voting	Majority voting
Smart contract functionality	Yes	Yes	Yes	No	Yes



Cannabis Supply Chain

- RASTREABILIDADE



DMG

nezly™



HEMPCOIN

PotCoin



Life of a mango ... from tree to shelf



SOURCE: Frank Yiannas and Walmart are the source for this slide content. #IBMBlockchain

Walmart Supply Chain

- VISIBILIDADE



Walmart traces over 25 products with the system powered by Hyperledger Fabric.

Walmart announces that all suppliers of fresh leafy greens will be required to start using the blockchain-based system in 2019.



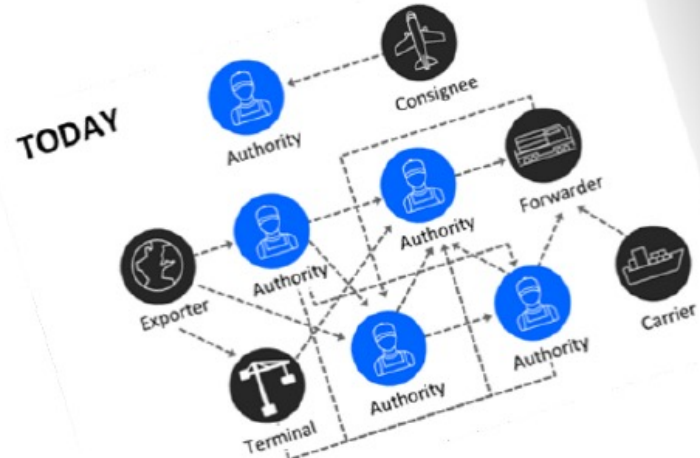
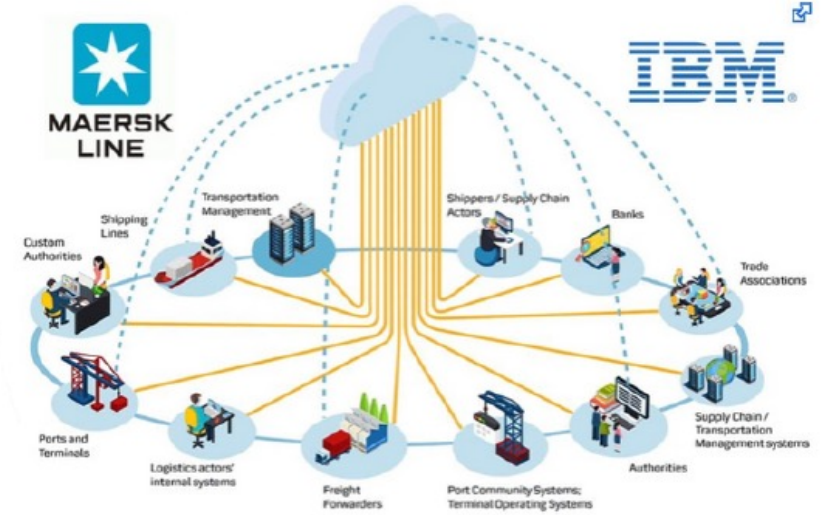
Transforming supply chains using **blockchain technology**

#ibmblockchain

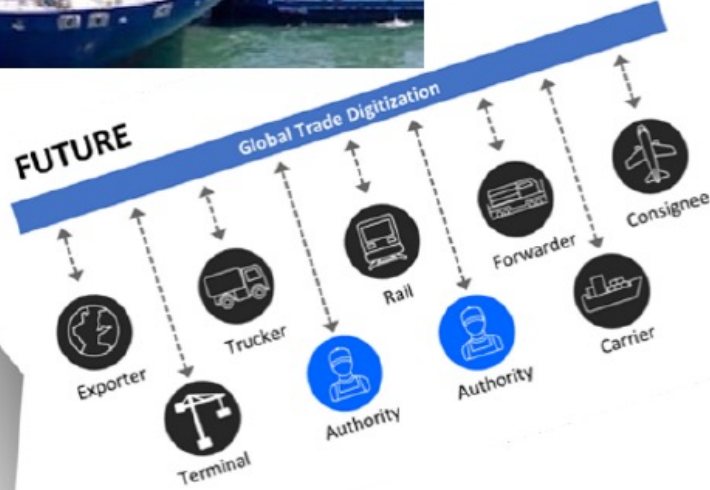


Maersk Supply Chain

- CONFIABILIDADE











FUTURE



Aula 12

- Softwares de Gestão e Produção de Logística;
- Logística 4.0 e Tecnologias Disruptivas;
- Tendências Cyber security, blockchain, IoT

A tela de modelo de negócios

<h2>Parcerias Chave</h2>  <p>Quem são nossos parceiros chave? Quem são nossos provedores chave? Que recursos chave adquirimos de nossos parceiros? Que atividades chave realizam nossos parceiros?</p> <p>MOTIVAÇÕES PARA A PARCERIA Otimização e eficiência Redução de risco e incerteza Aquisição de recursos e habilidades particulares</p>	<h2>Atividades Chave</h2>  <p>Que atividades chave requerem nossas propostas de valor? Nossos canais de distribuição? Relações com clientes? Fontes de renda?</p> <p>CATEGORIAS Produção Solução de problemas Plataforma/Network</p>	<h2>Proposta de valor</h2>  <p>Que valor proporcionamos aos nossos clientes? Que problema de nossos clientes ajudamos a solucionar? Que pacotes de produtos ou serviços oferecemos a cada segmento de mercado? Que necessidade dos clientes satisfazemos?</p> <p>CARACTERÍSTICAS Inovadora Desempenho Customização "Odear o trabalho duro" Design Menor/Risco Preço Redução de custos Redução de risco Acessibilidade Conveniência/Usabilidade</p>	<h2>Relações com clientes</h2>  <p>Que tipo de relação esperam os diferentes segmentos de mercado? Que tipo de relações temos estabelecido? Qual é o custo destas relações? Como estão integradas em nosso modelo de negócio?</p> <p>EXEMPLOS Assinatura pessoal Assinatura pessoal dedicada Auto-serviço Serviços automatizados Comunidade Co-criação</p>	<h2>Segmentos de mercado</h2>  <p>Para quem criamos valor? Quais são os nossos clientes mais importantes?</p> <p>Mercado de massa Mercado niche Segmentado Diversificado Plataforma multi-lateral</p>
<h2>Estrutura de custos</h2> <p>Quais são os custos mais importantes inerentes ao nosso modelo de negócio? Quais são os recursos chave mais caros? Quais são as atividades chave mais caras?</p> <p>É O SEU NEGÓCIO MAIS... Dirigido por custos (estrutura de custos mais magra, proposta de valor de preço baixo, automação máxima, terceirização extensiva) Dirigido por valor (focado em criação de valor, proposta de valor premium)</p> <p>CARACTERÍSTICAS DE CUSTOS: Custos fixos (salários, rendas, utilidades) Custos variáveis Economias de escala Economias de escopo</p>	<h2>Recursos Chave</h2>  <p>Que recursos chave requerem nossas propostas de valor? Nossos canais de distribuição? Relações com clientes? Fontes de renda?</p> <p>TIPOS DE RECURSOS Físicos Intelectuais (patentes de marcas, direitos autorais, dados) Humanos Financeiros</p>	<h2>Fontes de renda</h2>  <p>Por que valor estão dispostos a pagar nossos clientes? Por que pagam atualmente? Como pagam atualmente? Como eles gostariam de pagar? Quanto geram as diferentes fontes de renda ao total da renda?</p> <p>TIPOS: Venda de ativos Taxas de uso Taxas de assinatura Licença/Marketing/Co-branding Licenciamento Taxas de broker Anúncios</p> <p>PREÇOS FIXOS: Preço por item Dependente de características do produto Dependente do pagamento de cliente Dependente do volume</p> <p>PREÇOS DINÂMICOS: Regulação (dinâmica) Yield management Mercado em tempo real</p>	<h2>Canais</h2>  <p>Que canais preferem nossos segmentos de mercado? Como estabelecemos atualmente o contato com os clientes? Como se conjugam nossos canais? Quais têm melhores resultados? Quais são mais rentáveis? Como se integram nas atividades diárias dos clientes?</p> <p>FASES DOS CANAIS 1. Percebido 2. Avaliado 3. Comparado 4. Experimentado 5. Retornado 6. Recomendado</p>	