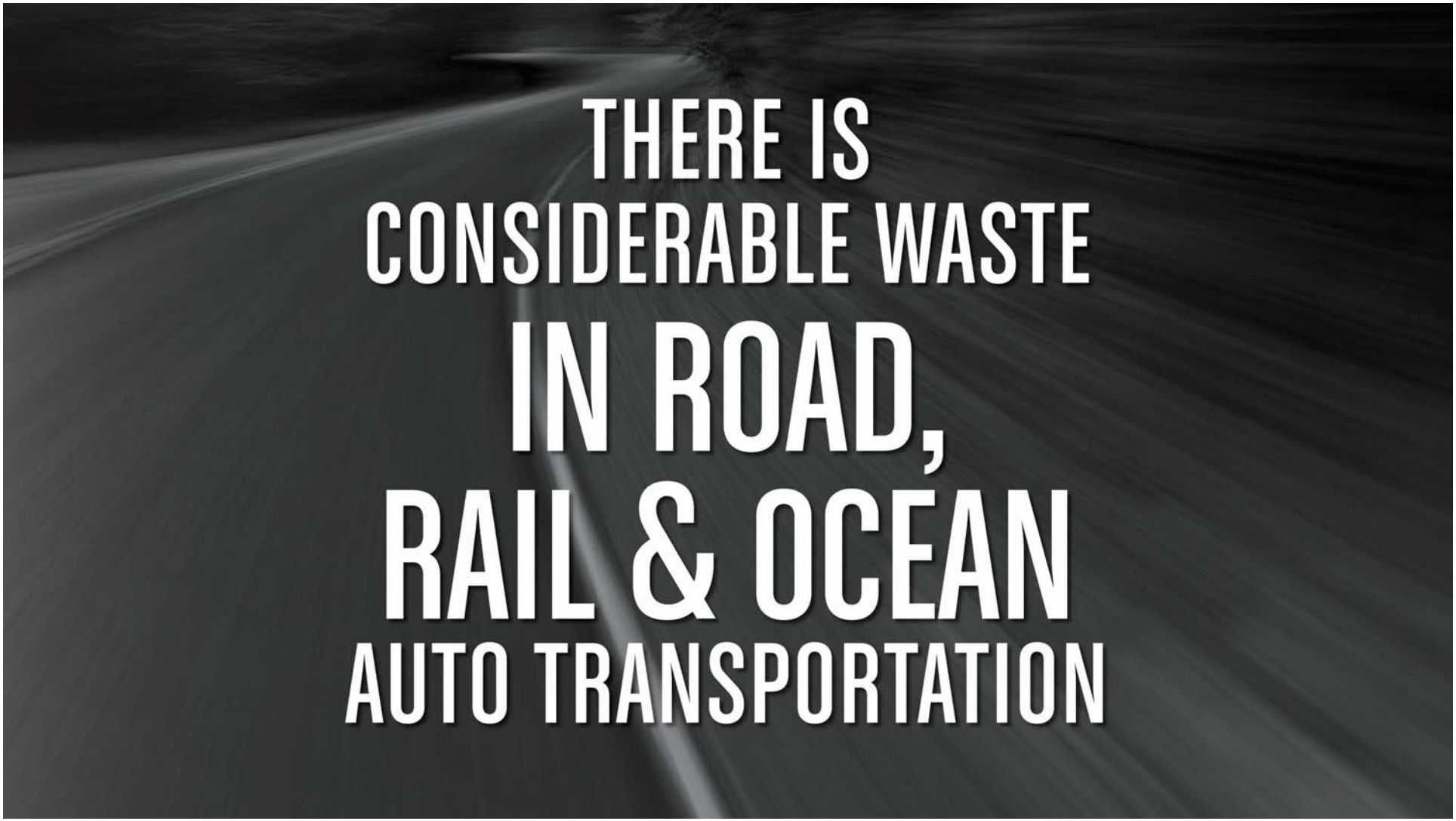
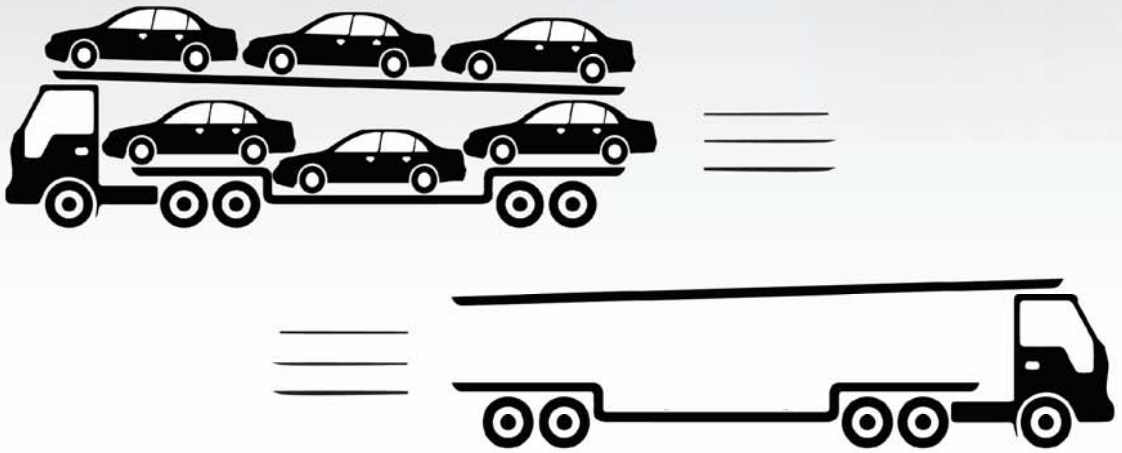

TRANSFORMING
AUTOMOTIVE LOGISTICS
CCC
CONVERTIBLE
CONCEPTS CORP.


THERE IS
CONSIDERABLE WASTE
IN ROAD,
RAIL & OCEAN
AUTO TRANSPORTATION

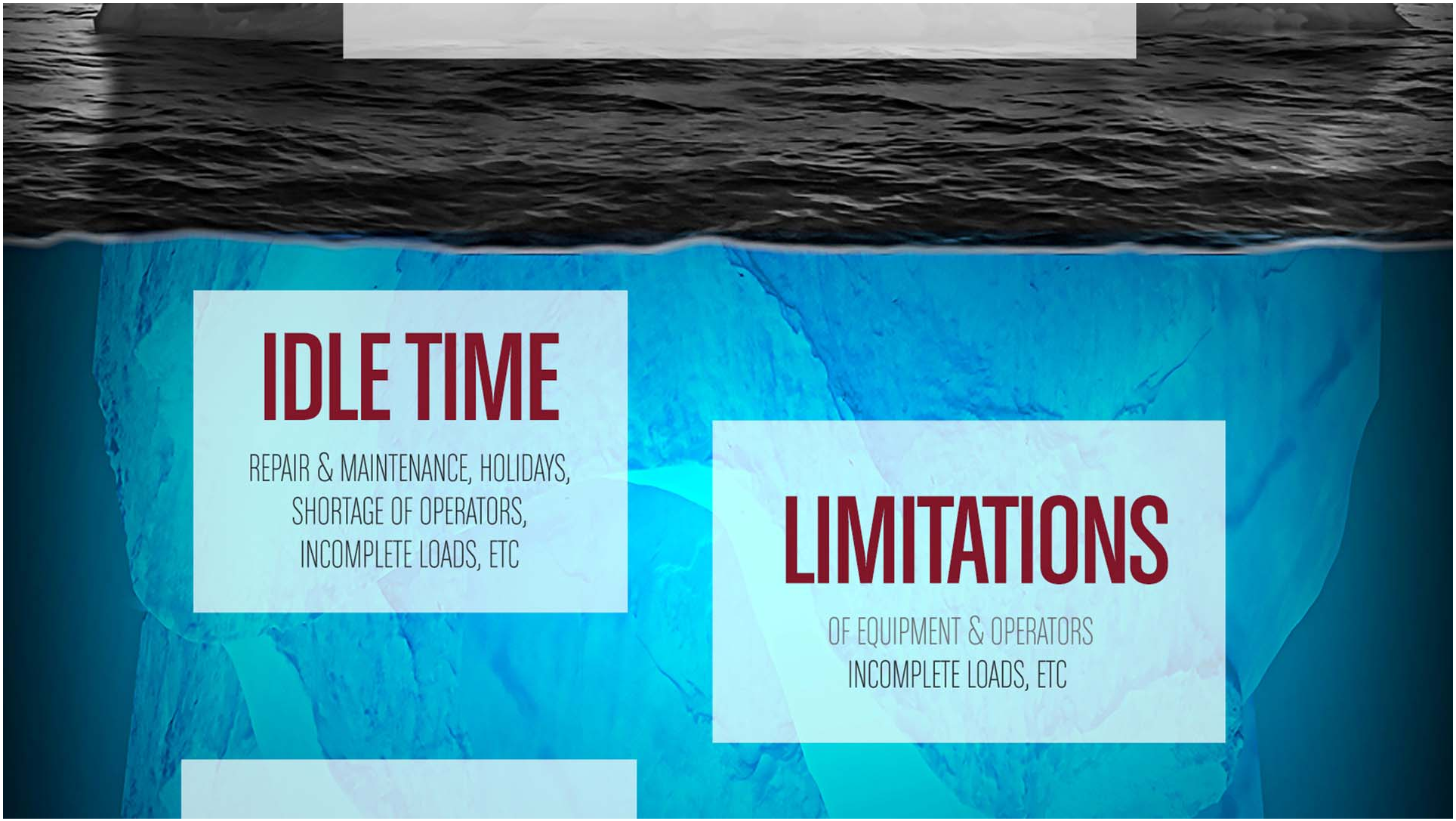
THE HUNDRED YEAR OLD BAD HABIT




20 BILLION
KILOGRAMS OF NEEDLESS CO2 IS
EMITTED INTO THE ATMOSPHERE EVERY YEAR


THE AUTO INDUSTRY
ACTUALLY SPENDS
MORE THAN
$75
BILLION
EVERY YEAR ON
INEFFICIENT
TRANSPORT


EMPTY MILES
PARTIAL AND COMPLETE


IDLE TIME
REPAIR & MAINTENANCE, HOLIDAYS,
SHORTAGE OF OPERATORS,
INCOMPLETE LOADS, ETC
LIMITATIONS
OF EQUIPMENT & OPERATORS
INCOMPLETE LOADS, ETC


INCOMPLETE LOADS, ETC
OF EQUIPMENT & OPERATORS
INCOMPLETE LOADS, ETC
8 BILLION
LITRES OF
FUEL - WASTED
MASSIVE
ENVIRONMENTAL
IMPACT


IMPACT
FINANCIAL COMPLICATIONS
- LACK OF ACCESS TO CREDIT
- OPERATING CAPITAL
LOW UTILIZATION FACTOR
PERHAPS LESS THAN 25%


SO WHY ARE
YOU DRIVING
AROUND LIKE
THIS?

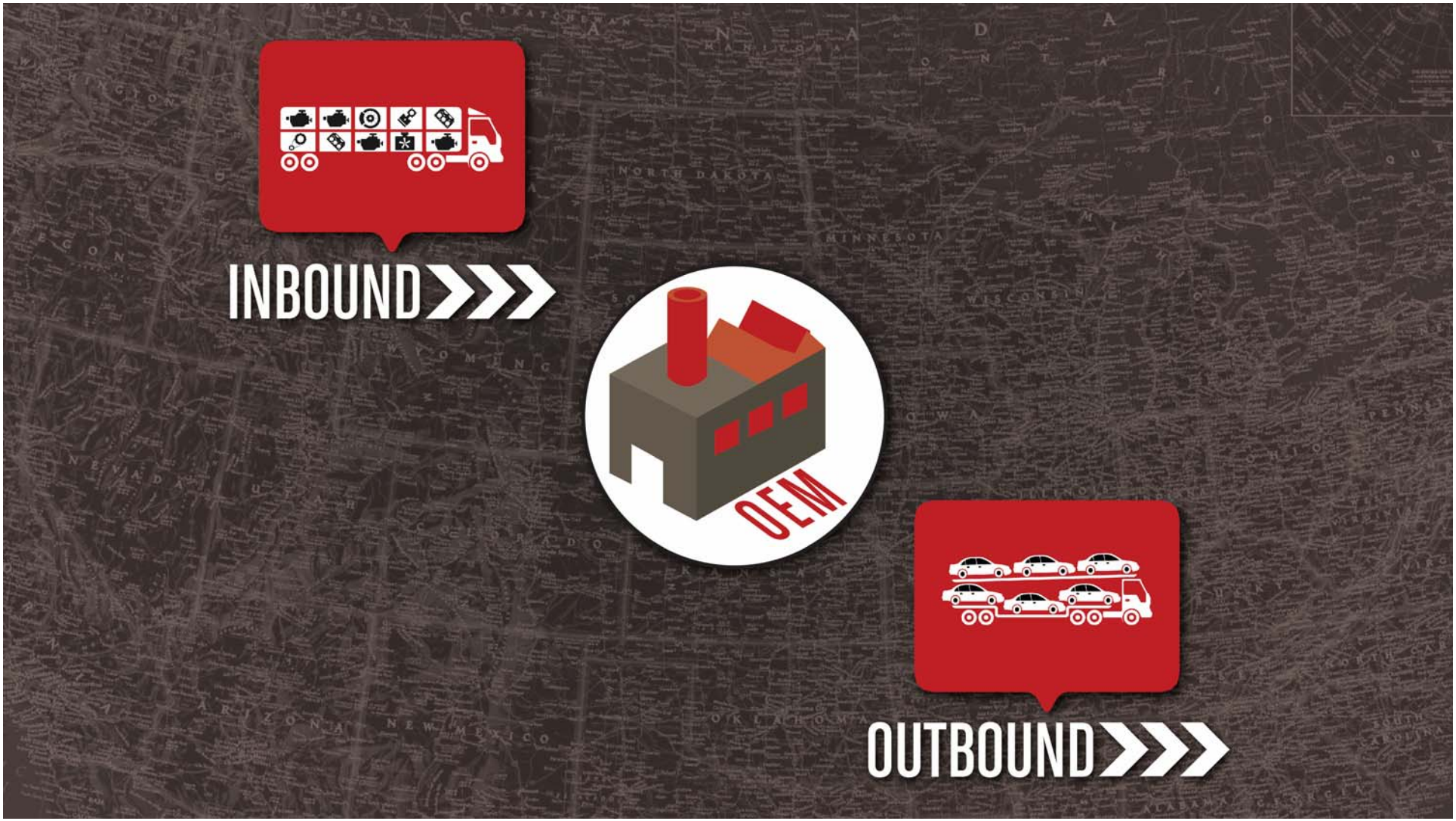
WORKING IN SILOS

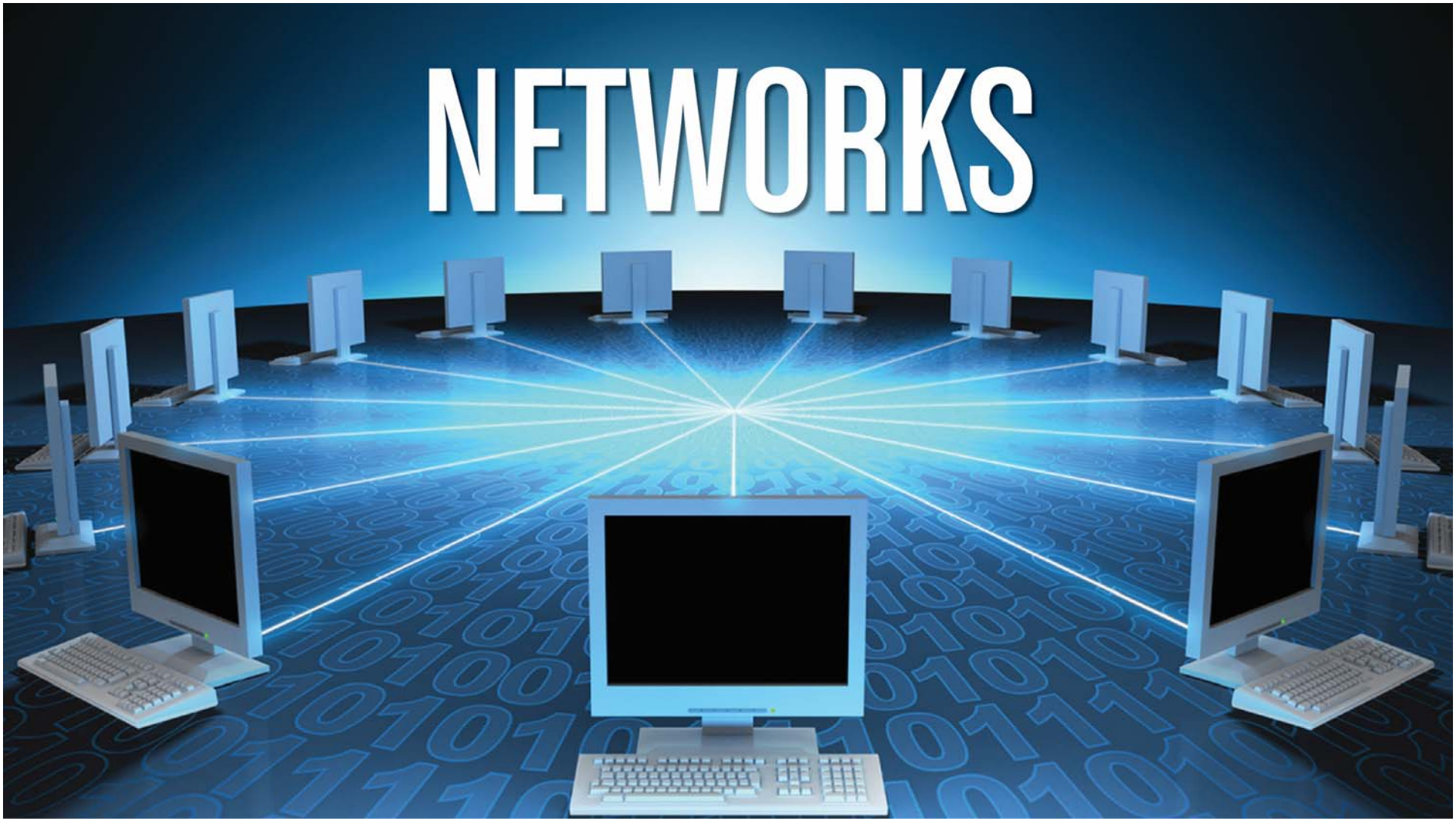
AUTOMOTIVE INBOUND

AUTOMOTIVE OUTBOUND

GENERAL FREIGHT


HE WHO IS NOT COURAGEOUS
ENOUGH TO TAKE RISKS,
WILL ACCOMPLISH
NOTHING IN LIFE.
~ Muhammad Ali


INBOUND
OEM
OUTBOUND


NETWORKS

How would you like to

PUSH A BUTTON

and regain 40% of your revenue lost to empty backhauls and decrease your carbon footprint at the same time?

CLC LOGISTICS INTELLIGENCE

CONVERTIBLE LOGISTICS INTELLIGENCE CENTRE

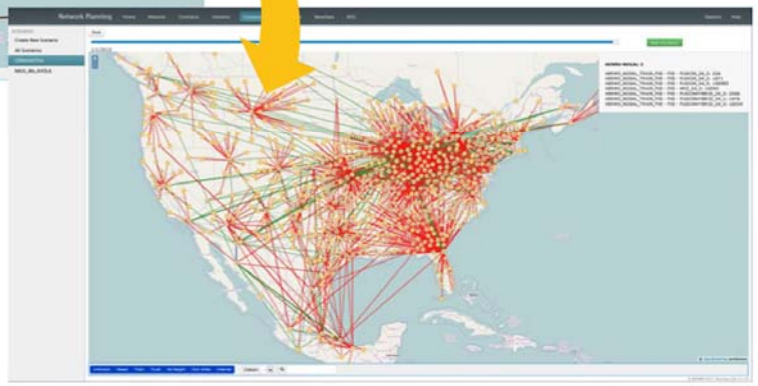
CLIC Powered By INFORM

NETWORK PLANNING & OPTIMIZATION

Input: All possible locations, connections + rates from RFQ portal

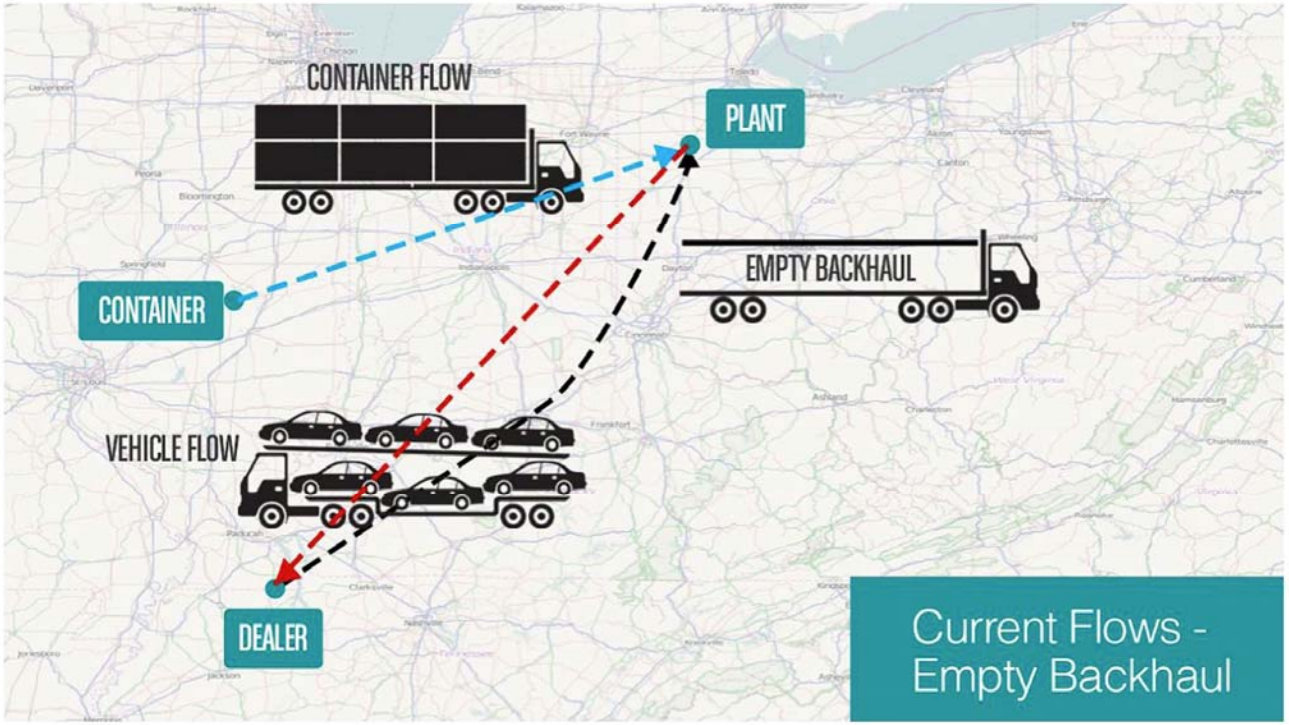
…throw this at the optimizer…

Output: Least cost routing



AUTOMOTIVE LOGISTICS

REDUCE EMPTY TRAVEL IN FVL - **COOPERATION**



AUTOMOTIVE LOGISTICS

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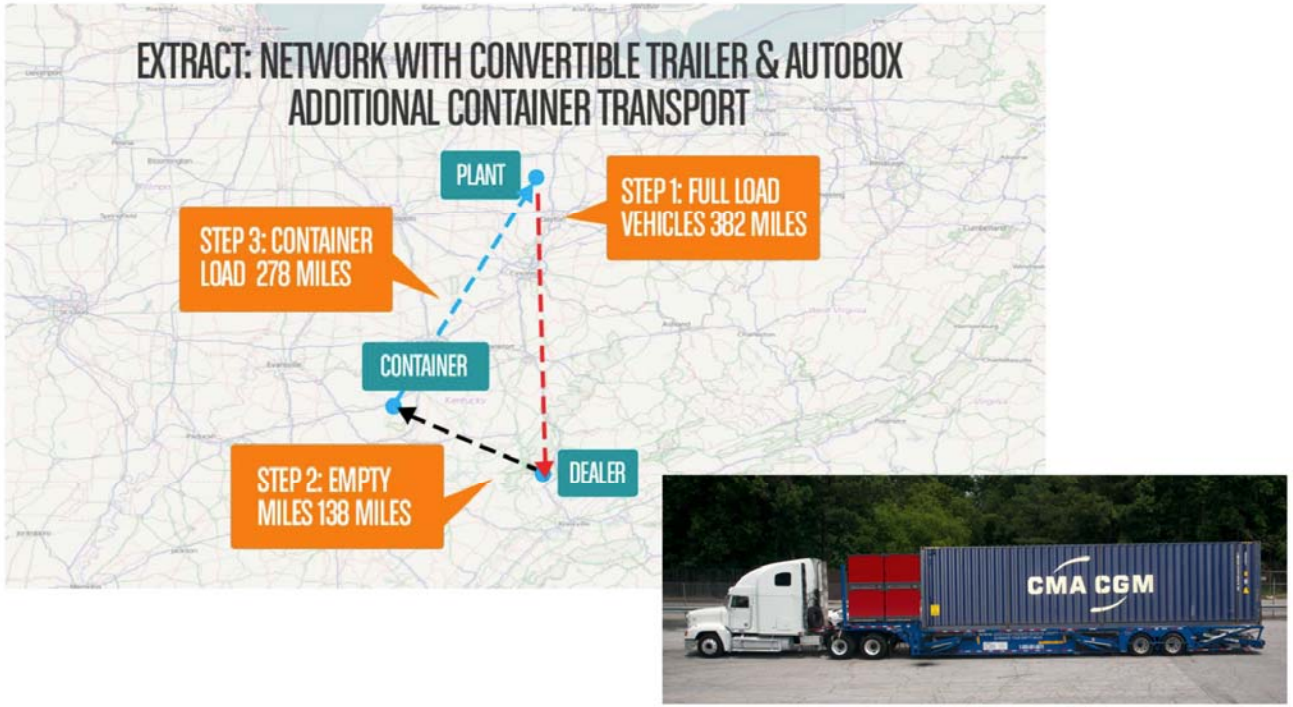


ONE FLEET | CARS OUTBOUND, DRY GOODS INBOUND USING THE SAME TRAILER.

CTM WORLDWIDE

NA CONVERTIBLE HI MOUNT

(VEHICLE LOAD FACTOR 7/8 AUTOS)

TOTAL LOAD CAPACITY
40,000LBS

EMPTY WEIGHT	MAX WEIGHT
STEER AXLE: 8,500LBS	STEER AXLE: 12,000LBS
DRIVE AXLES: 17,000LBS	DRIVE AXLES: 34,000LBS
TRAILER AXLES: 14,500LBS	TRAILER AXLES: 34,000LBS
TOTAL EMPTY: 40,000LBS	TOTAL MAX: 80,000LBS


www.convertibletrailers.com
NO MORE EMPTY BACKHAULS

NA CONVERTIBLE STINGER

(VEHICLE LOAD FACTOR 9/10 AUTOS)

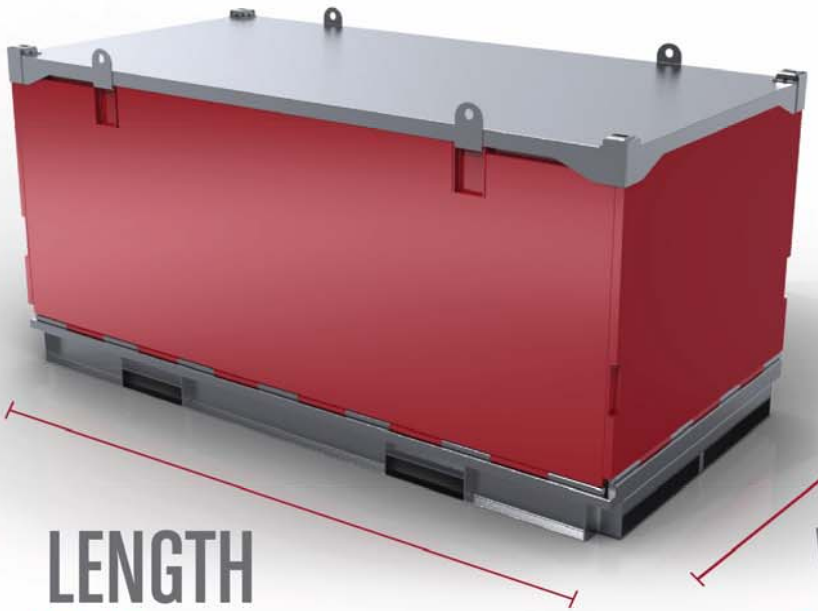
EMPTY WEIGHT	MAX WEIGHT
STEER AXLE: 9,000LBS	STEER AXLE: 12,000LBS
DRIVE AXLES: 18,000LBS	DRIVE AXLES: 34,000LBS
TRAILER AXLES: 15,000LBS	TRAILER AXLES: 34,000LBS
TOTAL EMPTY: 42,000LBS	TOTAL MAX: 80,000LBS

WE NEED TO **CREATE DRY SPACE**

AutoBox™ THE **AUTOBOX**

THE AUTOBOX

Outside Dimensions



HEIGHT
1265 mm

LENGTH
2440 mm

WIDTH
1220 mm

20
AUTOBOXES

3.25m³

=

1 - 40FT
CONTAINER

67m³

COLLAPSIBLE 4:1

STACKABLE.

TRACKABLE.

INTER-MODAL.

INTER-MODAL.

VERSATILE
DRY GOODS CAPABLE!

4FOLD BY Holland Container Innovations

COLLAPSIBLE CONTAINER

OPTIONS

RETHINKING **NETWORKS**

1 + 1 + 1 = 4

INBOUND

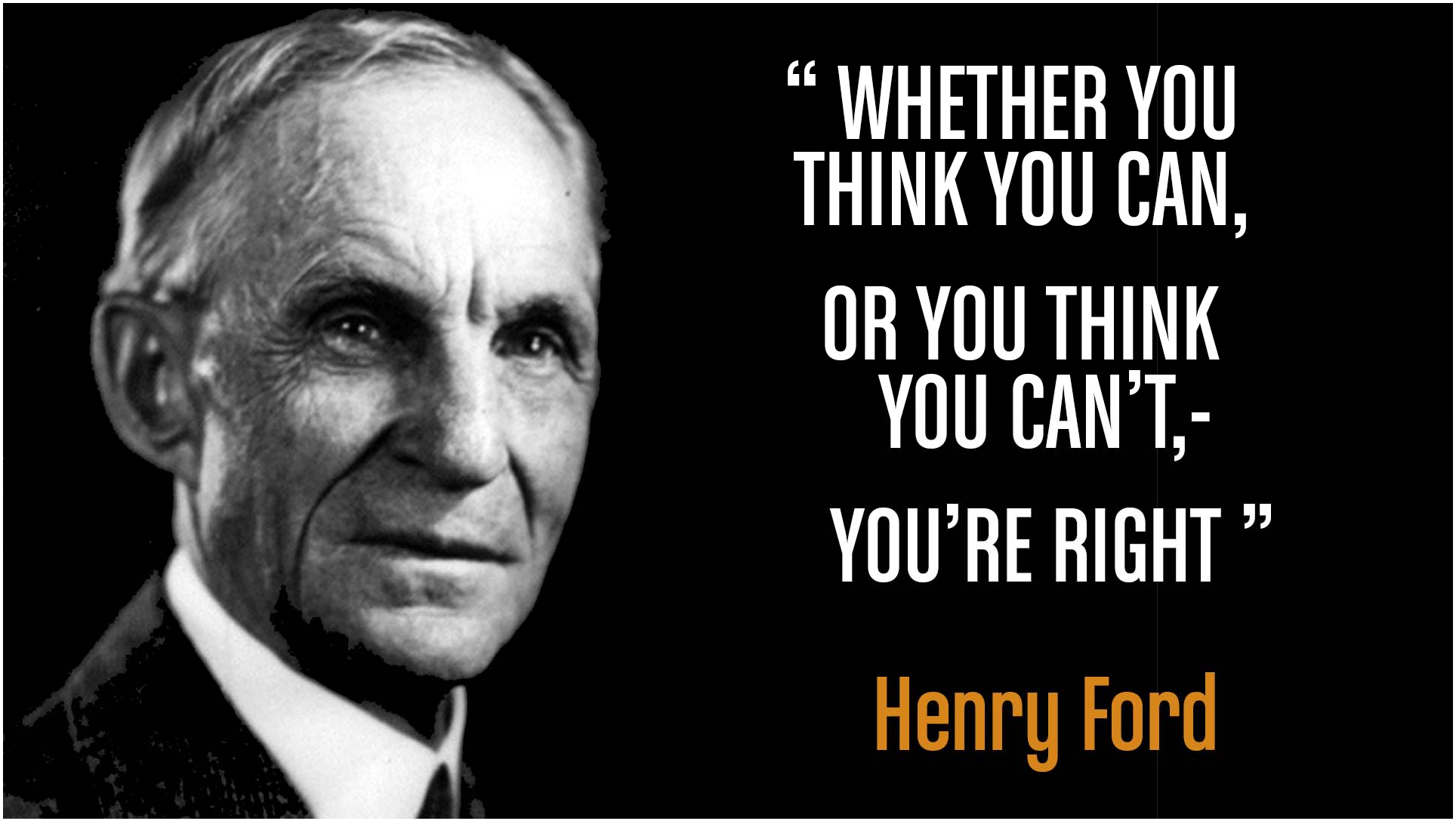
+

OUTBOUND

+

GENERAL FREIGHT

= CONVERTIBLE **LOGISTICS**


“ WHETHER YOU
THINK YOU CAN,
OR YOU THINK
YOU CAN’T,-
YOU’RE RIGHT ”
Henry Ford


IN THE FUTURE,
THERE WILL BE NO
DISTINCTION
BETWEEN
WASTE...
AND ENERGY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MODULARIZATION for Physical Internet

Martinez Avila, Maximo Modularization Task Force coordination team

ALICE Task Force on Modularization

alice | Alliance for Logistics Innovation through Collaboration in Europe

Why modularization?

- Modularization is one of the **pillars of the Physical Internet** vision**: Physical Interoperability.** The vision is supported by full deployment of collaboration and advanced information management.

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

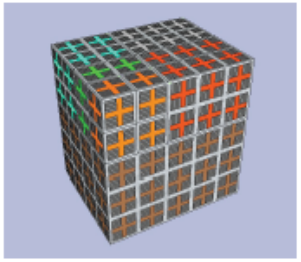
π-Containers:
3 Structural Tiers

Transport containers

Modular dimensions

L^T, W^T, H^T = [12; 6; 4,8; 3,6; 2,4; 1,2) m.

Vehicles adapted to these dimensions



T-container

World standard

Easy to transport and handle

Capable of sustaining tough external conditions

Stackable as cargo containers

Handling containers

Modular dimensions

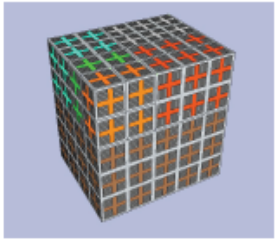
Fitting in any transport container

L^H, W^H, H^H =

[12; 6; 4,8; 3,6; 2,4; 1,2;

0,6; 0,48; 0,36; 0,24; 0,12)- T^T m.

$T^H < T^T$



H-container

World standard

Easy to handle

Capable of sustaining tough handling conditions

Stackable 2,4m minimum

Packaging containers

Modular dimensions

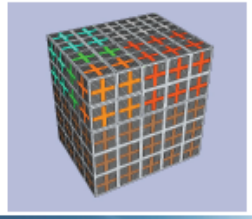
Fitting in any handling container

L^P, W^P, H^P =

[12; 6; 4,8; 3,6; 2,4; 1,2;

0,6; 0,48; 0,36; 0,24; 0,12)- T^H m.

$T^P < T^H$



P-container

World standard

Easy to insert and extract

Capable of protecting the product

Stackable 2,4m minimum

ALICE Task Force on Modularization

alice | Alliance for Logistics Innovation through Collaboration in Europe

- What we mean with modularization?
  - ❑ Transport Containers
  - ❑ Handling Containers MODULUSHCN
  - ❑ Packaging Containers

The scope should also include modularization on process industries and manufacturing assets (ALICE WG4)

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

ALICE Task Force on Modularization

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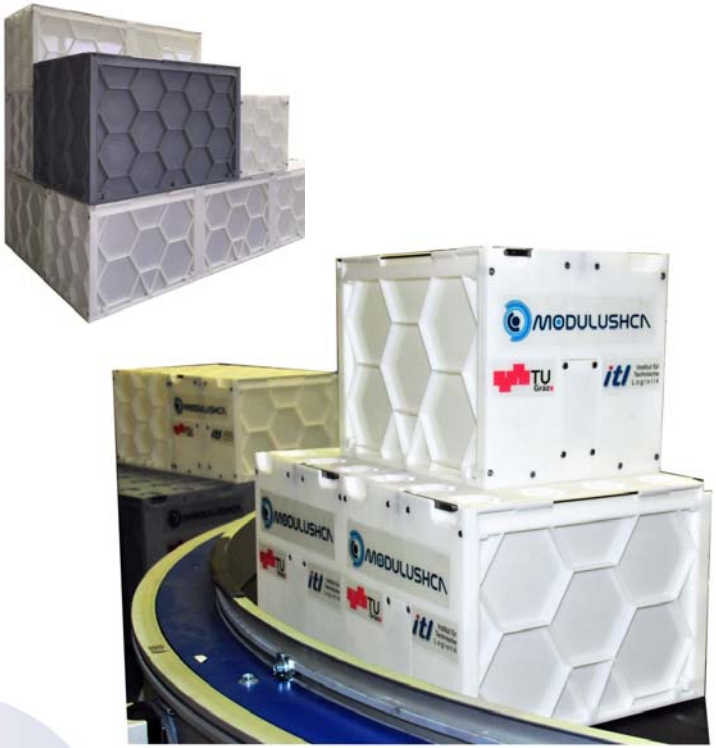


MODULUSHCA
Modular Logistics Units in Shared Co-modal Networks

SEVENTH FRAMEWORK PROGRAMME

ALICE Task Force on Modularization

Some examples…..

Freight Urban RoBOTic vehicle

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

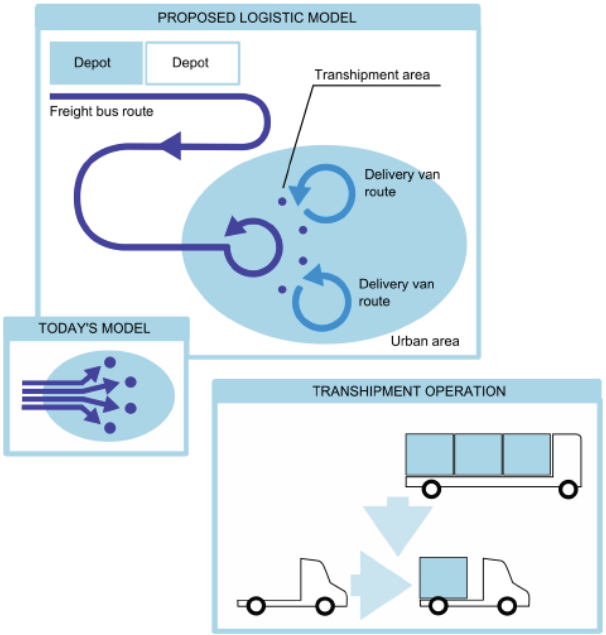
ALICE Task Force on Modularization

Some examples…..

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

ALICE Task Force on Modularization

Some examples…..



A complementary approach is represented by the BentoBox, a sort of modular pack station with removable trolleys.

MODULUSHCA
Modular Logistics Units in Shared Co-modal Networks

ALICE Task Force on Modularization

Some examples…..

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

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Some examples…..

Prix STRATÉGIES LOGISTIQUE DE L'INNOVATION DURABLE

NOMINÉ 2015

PETIT FORESTIER
Le Loueur de Froid

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

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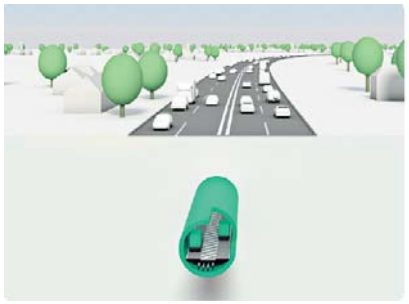
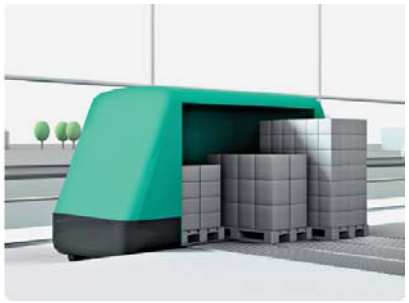
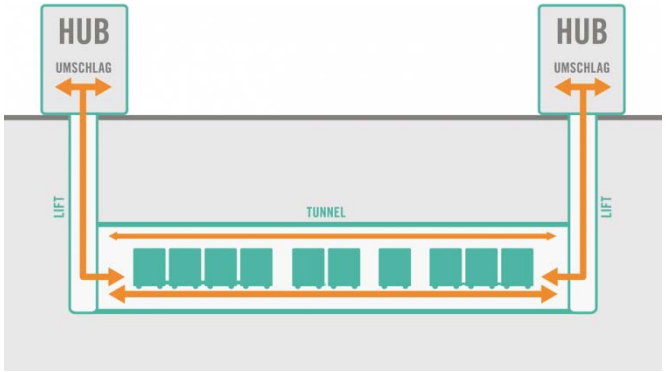
Some examples…..

CARGO SOUS TERRAIN







MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

SEVENTH FRAMEWORK PROGRAMME

ALICE Task Force on Modularization

Some examples…..

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Holland Container Innovations

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

SEVENTH FRAMEWORK PROGRAMME

ALICE Task Force on Modularization

Some examples…..

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RCMS
Rethinking Container Management System

MODULUSHCN
Modular Logistics Units in Shared Co-modal Networks

The Impact of Reusable Packaging on the Physical Internet

Why Reusables for Physical Internet?

- Enables standardization and modularity
- Creates efficiencies in an open network
- Facilitates automation
- Improves product flow
- Reduces waste (reduce, reuse, recycle)
- Supply-chain wide cost savings through labor reductions
- Reduces product damage and shrink
- Increased warehouse utilization

Standardization for the Physical Internet

- Dimensionally consistent containers and pallets are easy to handle and can interface effortlessly throughout the supply chain & with high-speed automation.

- Repeatable performance, space savings and flexibility of production and picking lines.
- Improved store delivery through mobile modular systems.
- Automotive industry reduced the linear assembly line length from 8,210 feet to 6,500 feet (an over 20% reduction) while reducing line side inventory and part handling cost.

Modular Advantages in the Physical Internet

- Allows for mixed containers sizes to transport in a standard footprint
- Promotes open pooled assets
- Simplifies tracking and tracing through limited host assets
- Improved truck and warehouse utilization
- Decreases line size and retail storage
- Enables material delivery & collapsed reusable packaging return efficiencies.

New to the World Product – PlastiCorr™

- Interchangeable with brown paper corrugate in automated and manual applications.
- Proprietary technology enables:
  - Major and minor flaps always return to straight
  - Manufacturers joint with zero extra thickness
  - Hygienic ergonomic sealed edges
- Expected life of 75+ supply chain turns
- Automated cleaning solutions under development
- Supports modularization & standardization

Thank you

We appreciate this opportunity to share the ways in which reusable packaging can impact the Physical Internet.

Norm Kukuk
Executive VP, Marketing & New Product Development

Mark Windisch
Strategic Account Manager
Consumer Products

ORBIS Corporation
1055 Corporate Center Dr
Oconomowoc, WI 53066


Never lose sight of your cargo
through Internet-enabled pallets

Richard Linkesch

CEO

richard@palletech.co

Experience:

Banking & Packaging

Morgan Stanley

Eco Pack

Partner vašich obalov

Education:

Finance & Manufacturing

KU

UNIVERSITY OF CAMBRIDGE

Unique Knowledge:

Pallet industry

New pallet material (paper laminate)

Anthony Wainman

CTO

anthony@palletech.co

Experience:

MIT GFSA & 3D Printing

MIT

Education:

Mech. Eng & Manufacturing

HERIOT WATT UNIVERSITY

UNIVERSITY OF CAMBRIDGE

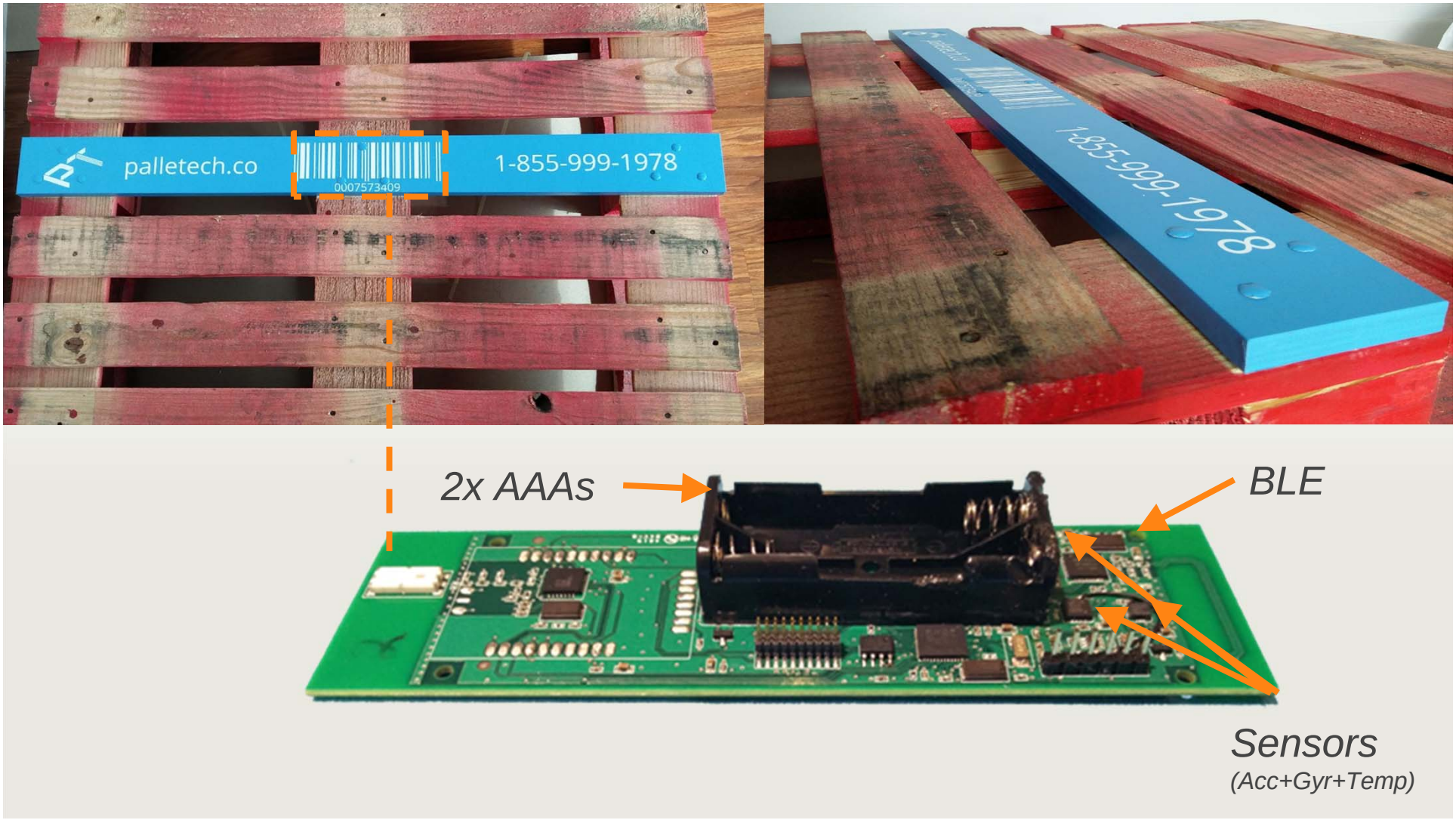
Unique Knowledge:

Big Data in Supply Chains

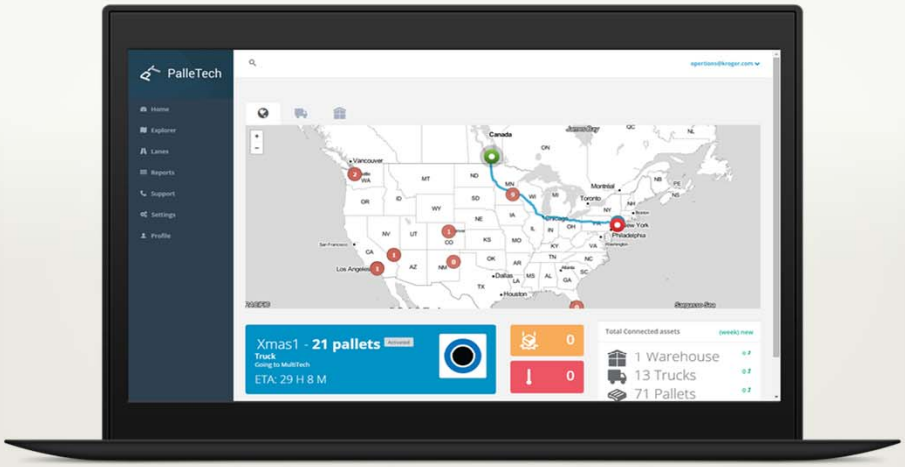
Start-up while at MIT


2+
Inventory Management
1+
Asset Tracking
2+
Condition Monitoring
1+
Security
HANDLE WITH CARE
WARNING
SHOCKWATCH
95%
=
$26.9Tn

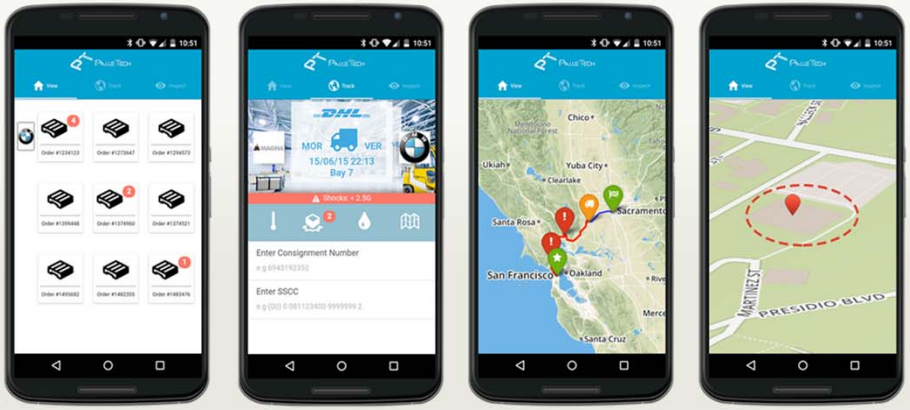

Sensor Data
Geotagged
Enterprise Cloud
5+YR
7+
MI
Search consignment number
Consignment #
123DX09101PKL
Temperature
MIN 10°F
MAX 14°F
Shocks/Drops
Route Analysis
SAVE
Trip Completion
23%
Consignment #
123DX09101PKL
2 Patents pending


palletech.co
0007573409
1-855-999-1978
1-855-999-1978
2x AAAs
BLE
Sensors
(Acc+Gyr+Temp)

Web App



Mobile App



Inventory Management

Condition Monitoring

Asset Tracking

Security

Pallets are the Initial Focus:
1) FDA regulations on temperature data storage
2) Pallet is a commodity, ease of replaceability

Global Asset Count	Asset Owners	Asset Users
 Pallets 12.6Bn	PECO PALLET, 9 BLOC, PALNET The pallet business redefined, CHEP, PALLET LOGISTICS OF AMERICA	GENIUS JUICE, sunopta, CARONUT, Ahold USA, Domino's, WinCo FOODS An Employee Owned Company, LYONS, PFG Performance Food Group, Unilever, Taylor FARMS, Grimmway Farms, DIAMOND FOODS, Forager, UNITED COLD STORAGE, PEPSICO, Driscoll's ONLY THE FINEST BERRIES, Coca-Cola, Walgreens
 Totes/ Bins 100Mn	HARVEST PORT, ALOGIX SUPPLY CHAIN SERVICES	Grimmway Farms, Driscoll's ONLY THE FINEST BERRIES, Taylor FARMS, Tanimura & Antle, *+ Farmers in general*
 Kegs 80Mn	MicroStar LOGISTICS	MillerCoors, *+ Breweries in general*
 Crates, Drums, Other 25Mn	TransPak, LDK LOGISTICS Logistics Driven Knowledge	IBM, EMC², + High Value Goods Manufacturers in general

** Logos indicate existing relationships*