



**P&G**



# Green Logistics at Procter & Gamble

SUPERGREEN regional workshop, Malmoe March 10 2011

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MBA, M. Sc. Chemical Engineering



# P&G at a Glance

Net Sales **\$79 (billion)**

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Number of Employees **127,000**

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Countries of Operations **80**

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Countries Where Our Brands Are Sold **180**

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Consumers Served by Our Brands **4.2 billion**

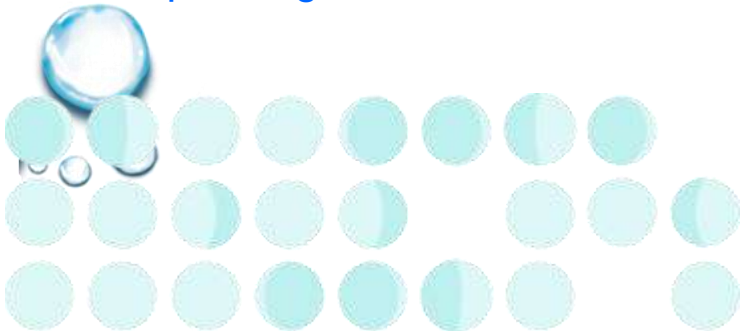
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R&D organization **9,000**

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R&D spending **\$2.2 (billion)**

*(Approximate)*



# P&G Business in Tons per year



Year	Tons
2005	18 Millions
2007	22 Millions
2010	24 Millions

*(22 millions tons= 1 million trucks)*



**P&G** Growth Strategy

Touching and Improving  
More Consumers' Lives in  
More Parts of the World ...  
More Completely.



# Sustainability Embedded in Purpose, Values and Principles



## **P&G Purpose:**

We provide branded products and services of superior quality and value that improve the lives of the world's consumers, *now and for generations to come.*

## **P&G Sustainability Principle:**

We incorporate **sustainability** into our products, packaging and operations.





# long-term vision



Powering our plants with 100% renewable energy



Using 100% renewable materials or recycle for all our products and packaging



Having zero consumer or manufacturing waste going to landfills



Designing products that delight consumers while maximizing the conservation of resources

# How you organize...



The most efficient way to produce anything is to bring together under one management as many as possible of the activities needed to turn out the product.

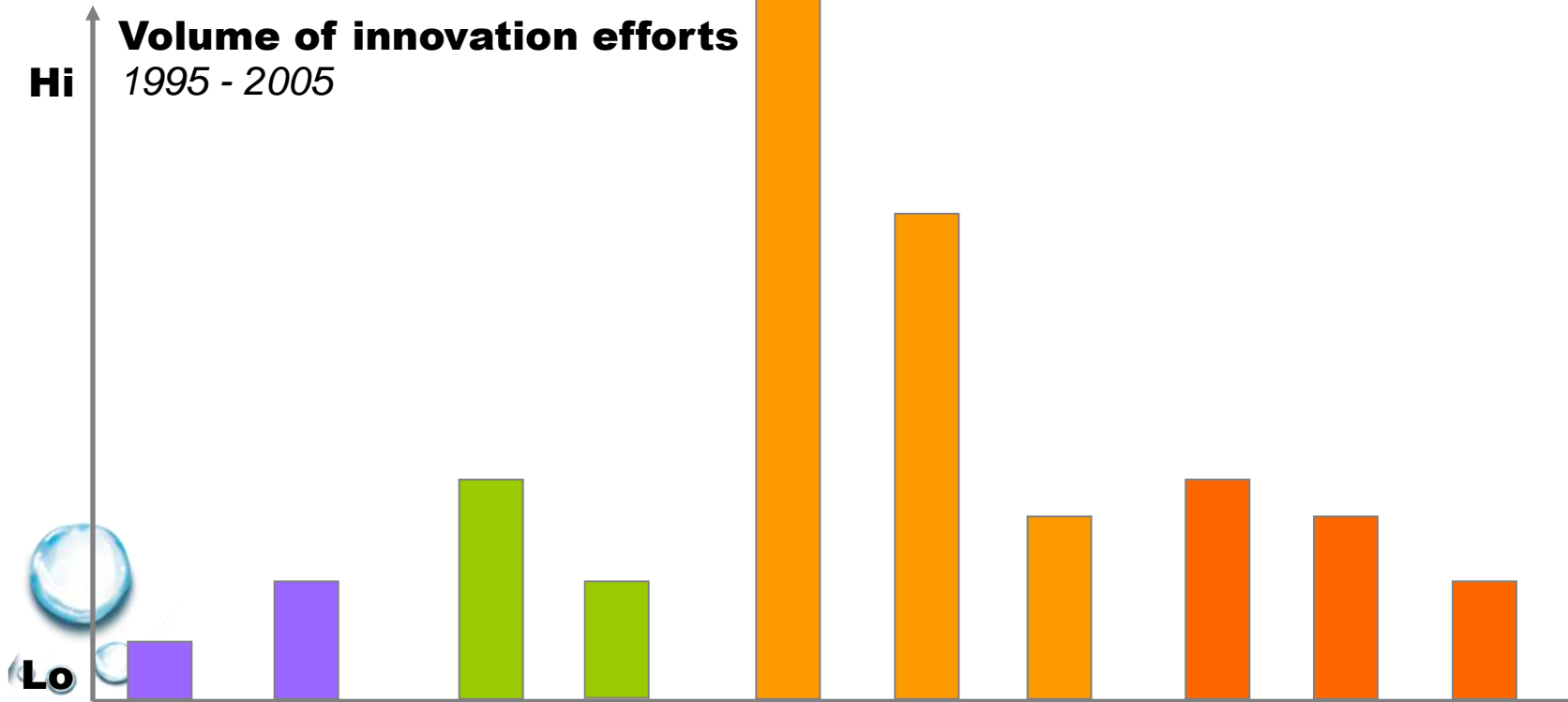
Peter Drucker



# Leading to a shift in value creation...



Finance		Process		Offering			Delivery		
Business model	Networking	Enabling process	Core process	Product performance	Product system	Service	Channel	Brand	Customer experience



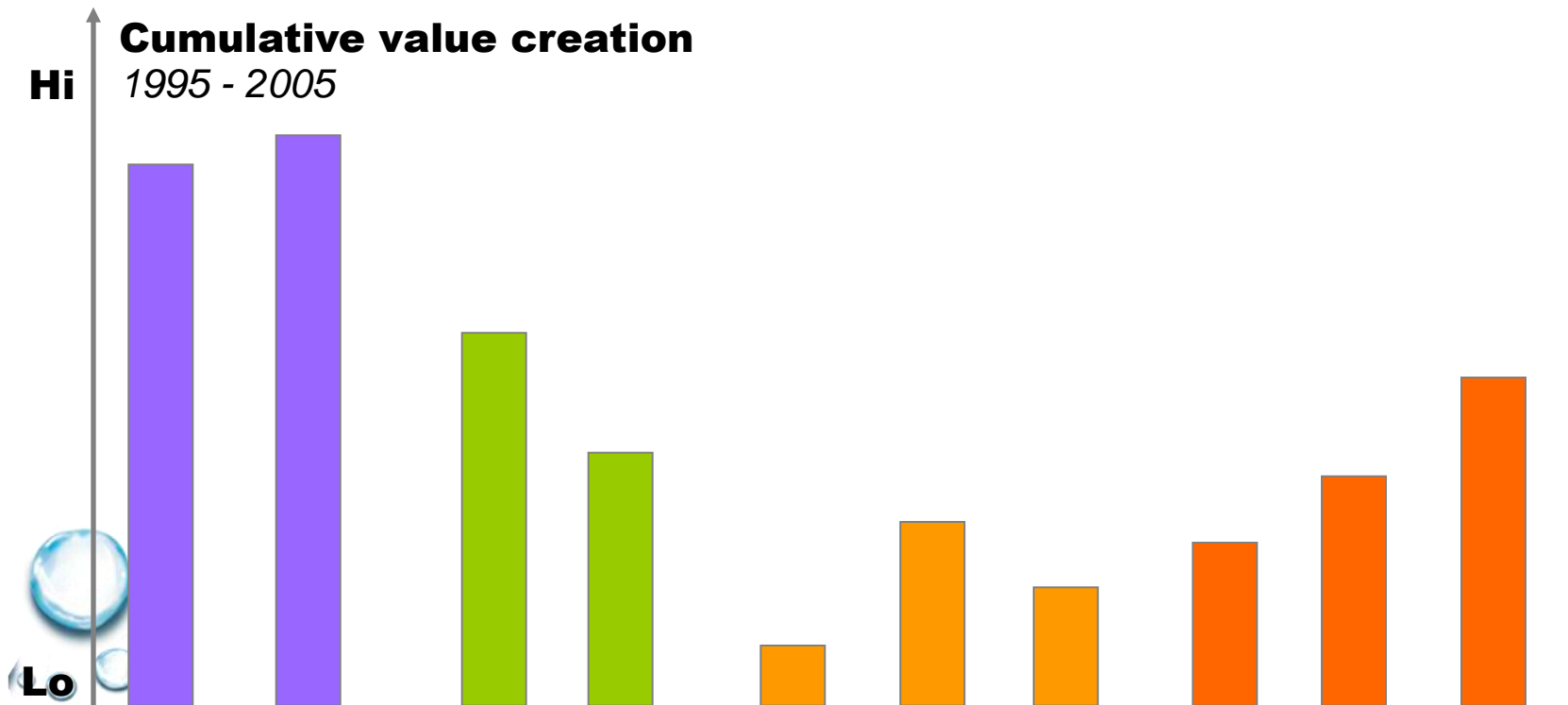
Source: Doblin analysis: On innovation effectiveness, March 2005



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Source: Doblin analysis: On innovation effectiveness, March 2005



## 10-Year Goals for Products

Replace Petroleum-Based  
Materials with Sustainably Sourced  
Renewable Materials

25%\*

Cold Water Washing

70% of total washing machine  
loads

Packaging Reduction

20% (per consumer use)\*

Consumer solid waste

Pilot studies in both developed and  
developing markets to understand  
how to eliminate  
landfilled/dumped consumer solid  
waste

*\* vs. 2010 baseline*





## 10-Year Goals for Operations

Renewable Energy  
Powering our Plants

30%

Manufacturing Waste

< 0.5% (disposed)

**Truck Transportation  
Reduction**

**20% (km/unit of  
volume)\***



*\* vs. 2010 baseline*

# Sustainability = Value!

## Built into the *Rhythm* of the Business

### Bottom line cost reductions

- Operational efficiencies
- Bold, new, efficient facility designs

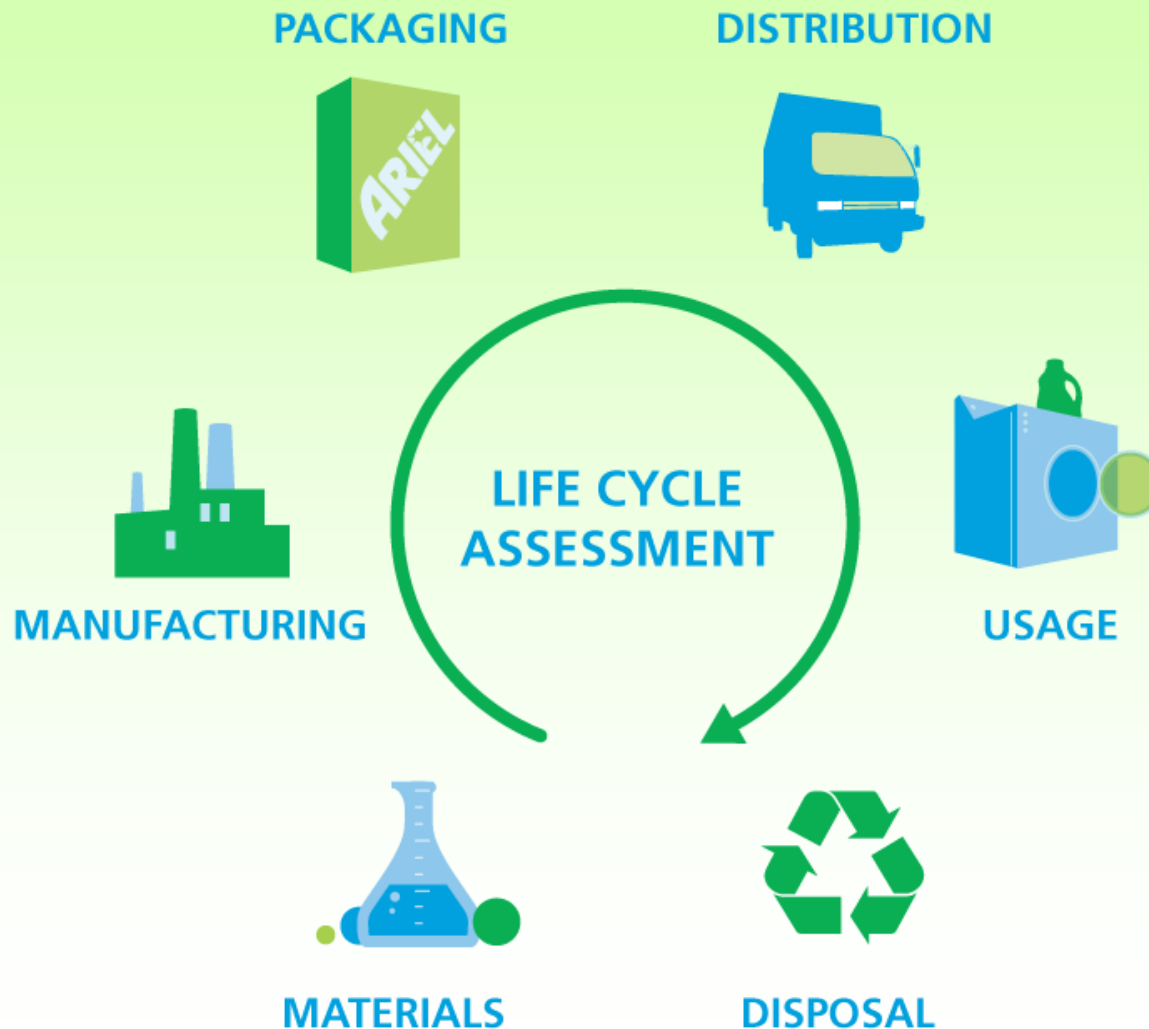
### Top line sales growth

- Creating products that enable consumers to be more environmentally sustainable

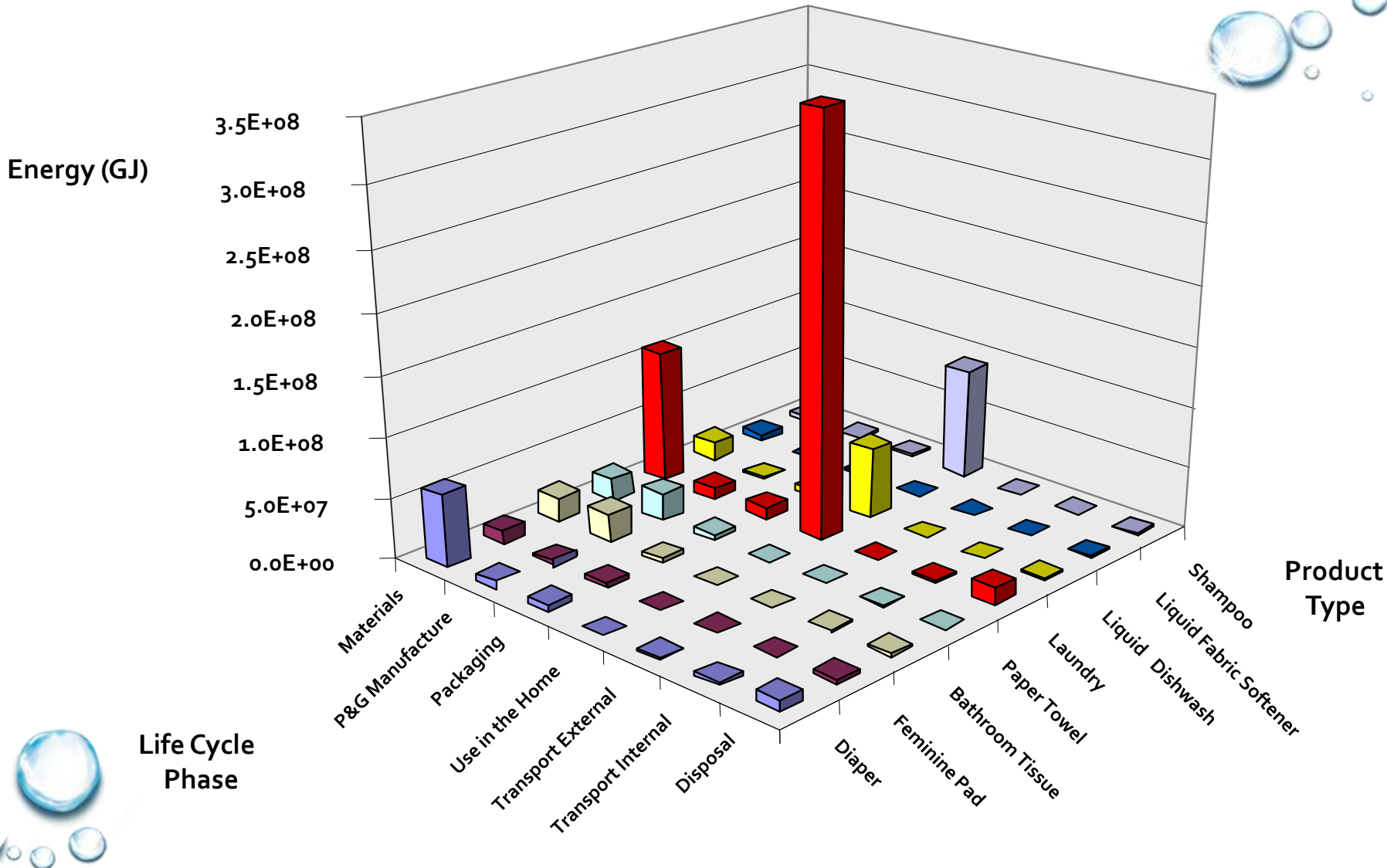


in-scope: the total life cycle of a product

Sustainable innovation is about considering the full life cycle



# Company Product Energy Usage from Life Cycle Perspective



- Diaper
- Bathroom Tissue
- Laundry
- Liquid Fabric Softener
- Feminine Pad
- Paper Towel
- Liquid Dishwash
- Shampoo



A NOTICEABLE REDUCTION  
IN OVERALL ENVIRONMENTAL  
FOOTPRINT\*

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**40–50%**

Less water to manufacture

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**30–40%**

Less energy to manufacture

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**20–50%**

Less energy by washing  
in low temperatures

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**14–45%**

Less packaging

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**40–57%**

Fewer trucks to transport



# Sustainable Network Design & Transport

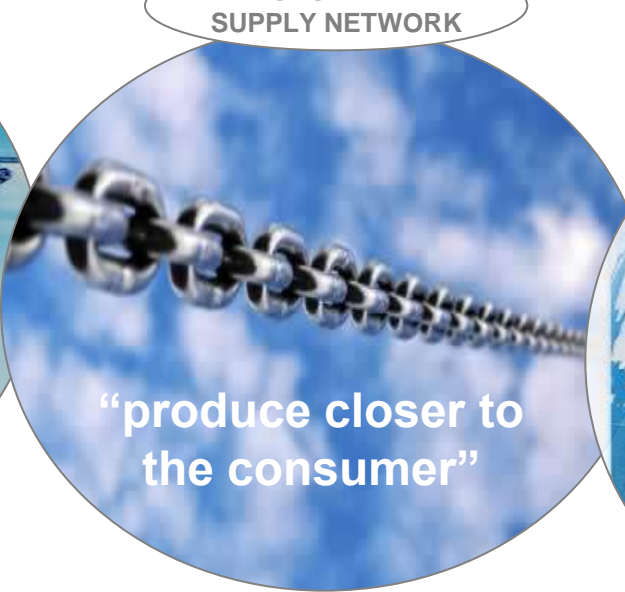
Logistics burden = **Volume shipped** X KM travelled X “Cost” of 1 Km

**COMPACTION**



“fighting water and air”

**SHORTER SUPPLY NETWORK**



“produce closer to the consumer”

**EFFICIENCY**



“weed out the wastes & seek future opportunities”

**Creating value**  
**Cutting “consumer invisible cost”**



Examples where it is working...



# Product compaction:



1990s



Early  
2000s

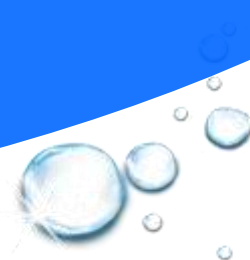


2008



Less volume shipped - Same value

# Packaging compaction



Previous



New

## ALLDAYS PROGRESS IN NUMBERS

735

tons of paper saved  
per year

368

fewer truck trips

80%

reduction in ink usage



Turkey Ariel: -20% space

# Compaction & Simplification



# How Far on \$500 Worth of Diesel?





# ...Smart Re-Localization



Smart Standard Multipurpose mini-plants closer to Regional Distribution Centers.



=> Less kms traveled



# Project TINA

P&G Green Corridors Project

Our aim is to increase intermodal/rail transport from 10% to 30% by 2015.

Winner 'Intermodal Award' EIA 2009



# TINA 2015 MASTERPLAN



# TINA Performance Dashboard (1)



## TINA Project - Performance Dashboard

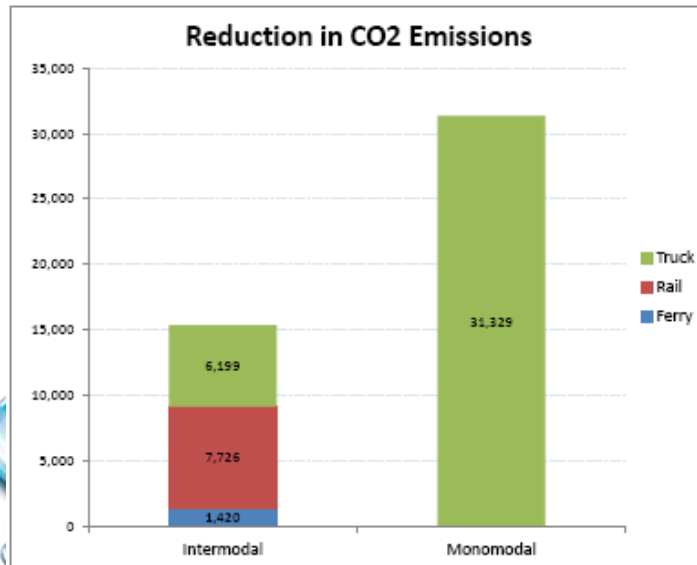
Pag 1

To :

From :

Number of Loads:

TOTAL :



Monomodal Solution :	31,329
Intermodal Solution :	15,345
Truck Km Reduction :	15,985

# TINA Performance Dashboard (2)



## TINA Project - Performance Dashboard

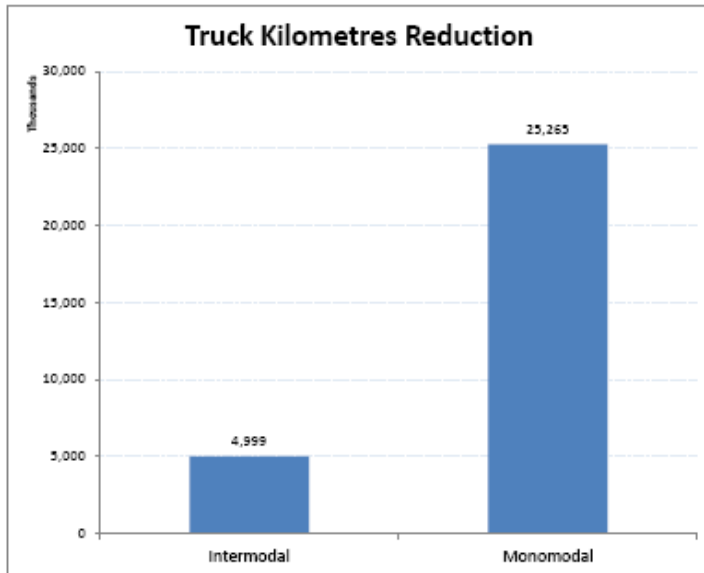
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To :

From :

Number of Loads:

TOTAL :



Monomodal Solution :	25,265,404
Intermodal Solution :	4,998,856
<b>Truck Km Reduction :</b>	<b>20,266,548</b>

# TINA Performance Dashboard (3)



## TINA Project - Performance Dashboard

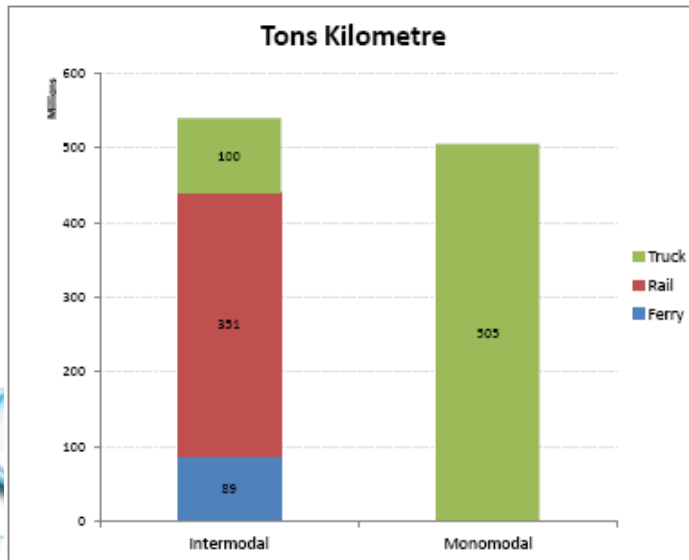
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To :

From :

Number of Loads:

TOTAL :



Monomodal Solution :	505,308,082
Intermodal Solution :	539,905,523
Tons Km Reduction :	-34,597,441



# What will it take to scale successful in intermodal transport? Create Scale!

- **Close collaboration:**  
Shipper / container operators / transport providers
  - **Collaboration with other shippers**  
Scale / cost sharing
  - **Right infrastructure and operations**
- 



# Technical solutions: A Metro for Freight

An innovative system for intermodal freight transport





# *Collaboration Concepts for Co- modality*

*From CO<sub>2</sub> to CO<sup>3</sup>*



CO<sup>3</sup>

Old P&G mentality...



...but WE are the biggest, Why should we collaborate?



## How to Fairly Split Costs and benefits of a collaboration?



**Travel by car from A->B cost € 100**

**Party of 3 = € 33,3 per person**

**1 person = € 100 per person**

*The lonely person joins the other car. What should he/she pay?*

**Equal Distribution of the costs**

$$100/4=25$$

**Equal Distribution of the Saving**

	Current Price (€)	New	Saving	Volume based Distribution of savings	New(€)
Family of 3	100	?		$3/4 * 100 = 75$	25
1 person	100	?		$1/4 * 100 = 25$	75
<b>Total</b>	<b>200</b>	<b>100</b>	<b>100</b>		<b>100</b>






# Optimal allocation



**How to Fairly Split Costs and benefits of a collaboration?**



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The new Passenger should pay 33% of the costs (50% if this is the only possible alliance)

- 1) The new Scale for the single passenger is 3
- 2) The new Scale for the 3 passengers is 4.5! ☺



# Ample room for improvement!

## *World Economic Forum Study (Feb.09)*

24% of freight vehicles in the EU run empty

Average loading of the rest is only 57%

Overall efficiency = 43%!!! ☹

Flow imbalance could only explain half of this loss

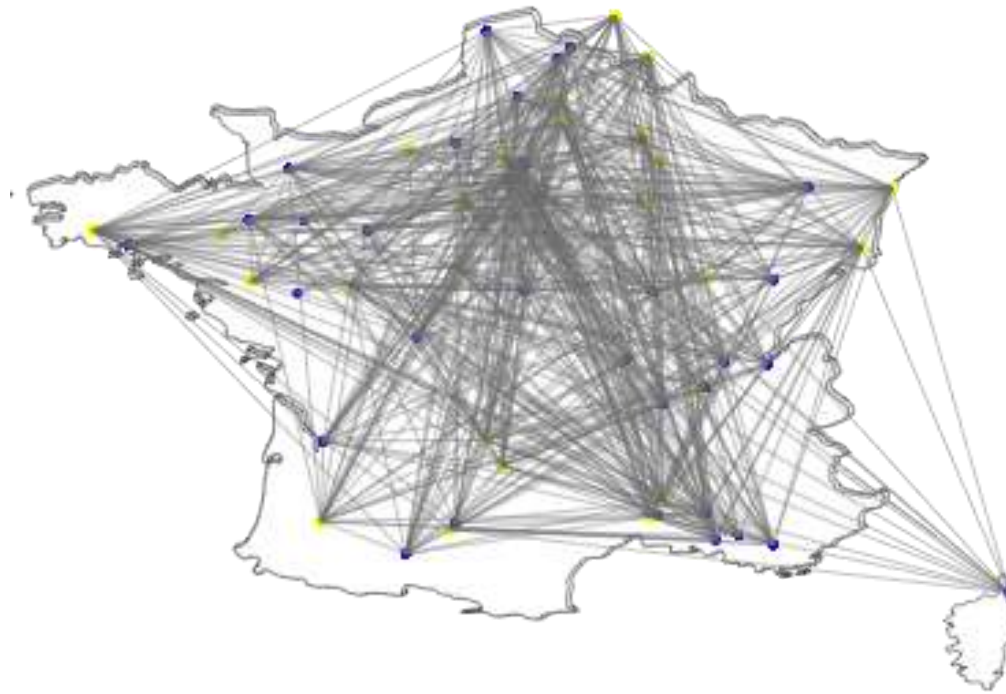
And it gets worse!...If route is taken into account efficiency goes down to <20%  
(Prof .Ballot, EDM Paris)

Estimated Recoverable Loss for EU 27:

- Euro 22 Billion
- 1.2% of CO<sub>2</sub> emissions



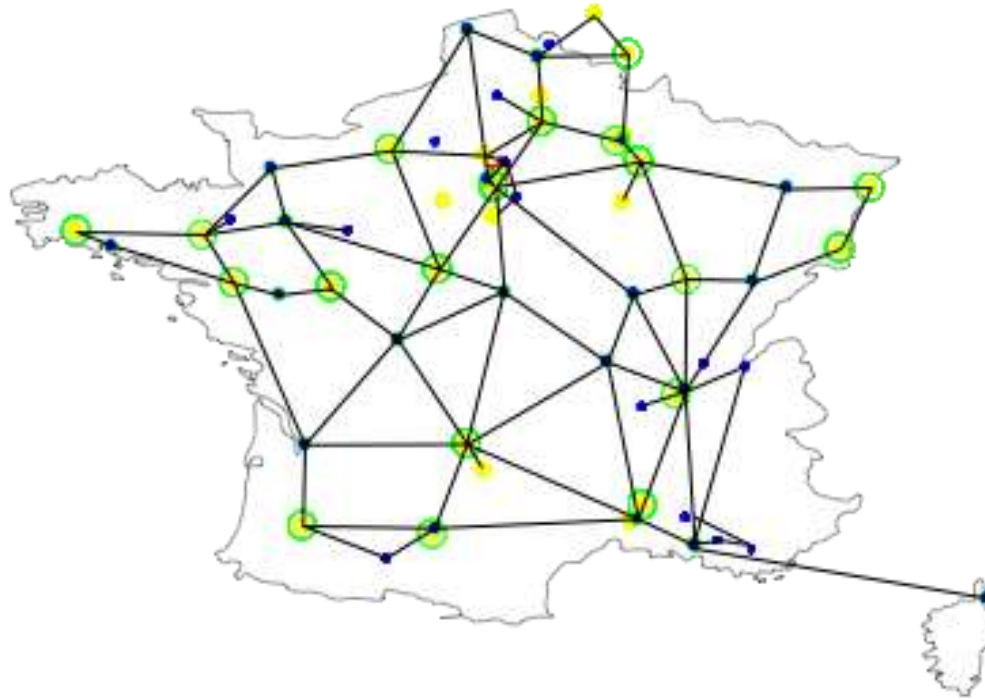
# Today independent networks : the hub and spoke organisations



## Facts

- Unneeded t.km
- Fragmented volumes lead to poor efficiency

# Physical Internet: An asset efficient approach



Stakes : simple analytical model

○ Means divided by / ... 4



# EGCI ROADMAP

## Green Hubs and Green Corridors



**M. I**

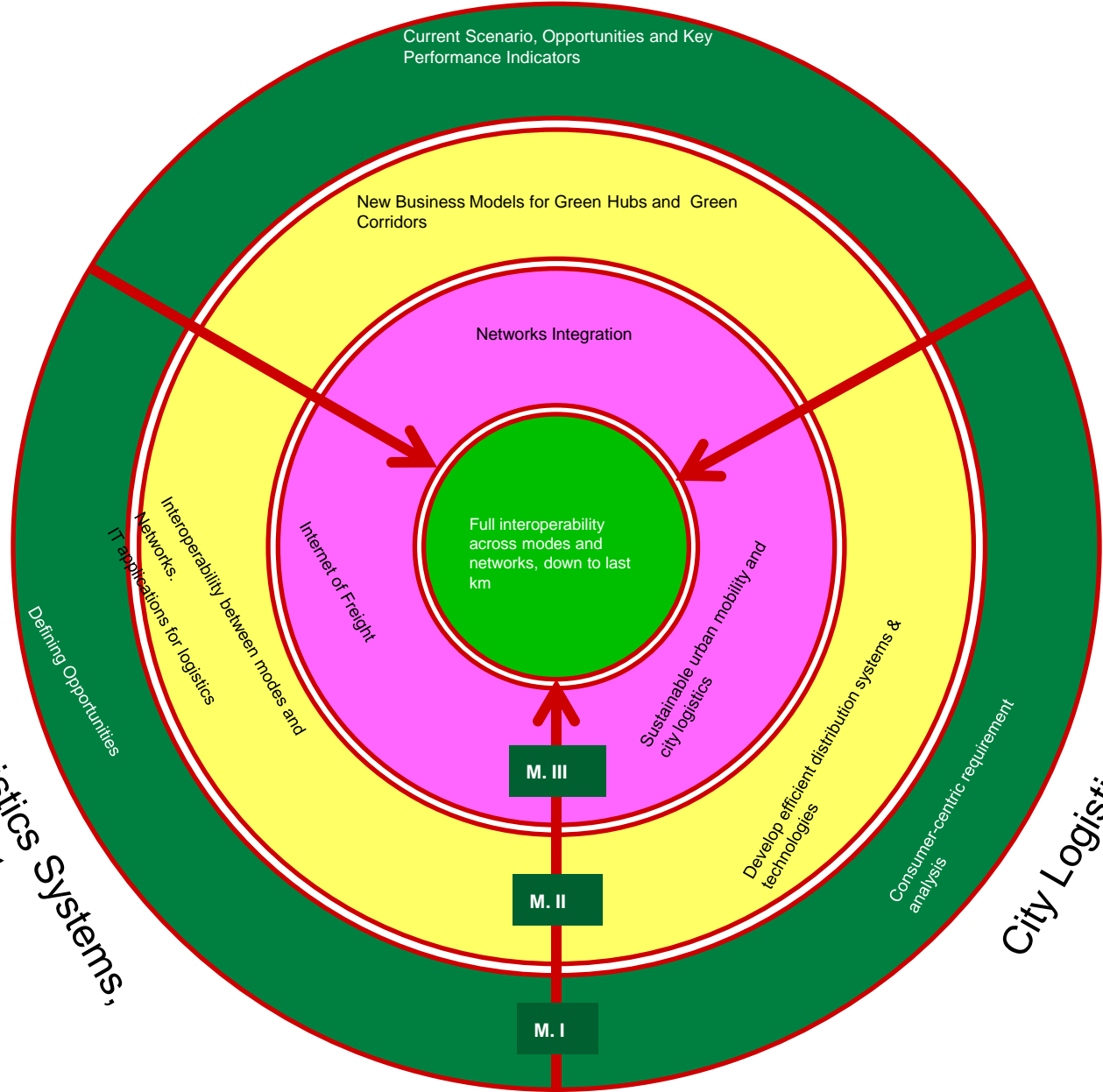
Milestone I (to 2015)  
**Setting the Targets**

**M. II**

Milestone II (to 2020)  
**Building the Partnerships**

**M. III**

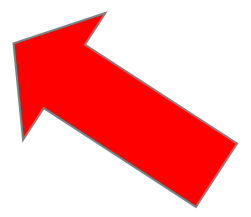
Milestone III (to 2030)  
**Roll-out**



Intelligent Logistics Systems,  
optimising e-freight



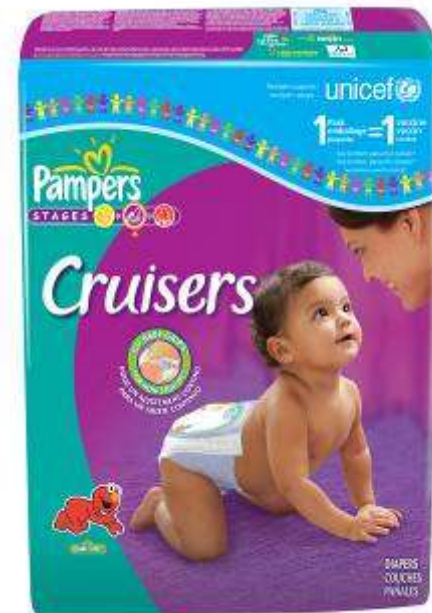
City Logistics



# Question

Just in Time...

How to apply it correctly?



The P&G logo is displayed in white, italicized serif font on a bright cyan background that curves from the top left towards the center of the image.

*P&G*



**THANK YOU!**