Global Materials Management and Logistics Key Performance Indicators

ODETTE

OSCAR FREDELL
MANAGER INBOUND TRANSPORT DEVELOPMENT

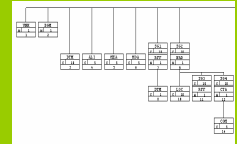**VOLVO CARS**

VOLVO

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VOLVO
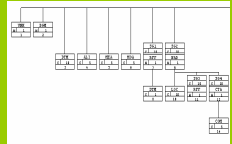
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MMLKPI
Global Materials Management and Logistics Key Performance Indicators

ODETTE

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Introduction

To avoid each automotive company creating its own Logistics Performance Indicators (LKPI), Odette's Logistics Functional Committee identified the need to have common Logistics KPIs. A Project group was formed for this purpose in July 2004;

Mission:

To define and promote common indicators and common understanding between the Trading Parties for Parts supply in line with the Global MMOG/LE recommendation to increase performance and decrease cost in the Supply Chain.

Mission complete August 2005
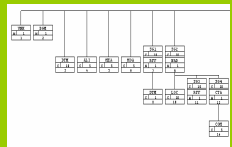
In June 2005, a joint global AIAG/Odette team was formed to create a global document.

Odette

- → Basi Lopez — Lear Corporation
- → Damien Derlot — SNOP
- → David Fernandez — ANFAC
- → Gerhard Paulinz — Volvo Truck
- → Jacky Cousin — GALIA
- → Jan De Wit — Renault
- → Jeff Turner — SMMT
- → Francisco Reseco — Renault
- → Oscar Fredell — Volvo Cars
- → Paul Johnson — Nissan Europe
- → Philippe Mandelier — PSA Peugeot Citroën
- → Sebastian Kirchert — Bosch
- → Sergio Simoes — PSA Peugeot Citroën
- → Thierry Koscielniak — GALIA
- → Valerie Gautsch — Nissan Europe

AIAG

- → Morris Brown — AIAG
- → David Gonsalvez — General Motors
- → Aidan Hughes — Gates Corporation
- → Chuck Koehn — DaimlerChrysler
- → Sheila Manning — DaimlerChrysler
- → Terry Onica — QAD
- → Steve Paul — Federal Mogul
- → Tim Piniatoglou — Ford Motor Company
- → Todd Pronge — Bosch
- → Darrell Schwartz — Formtech
- → Jennifer Yankee — Ford Motor Company
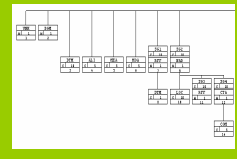
Why standard KPIs?

➔ Using this recommendation, a company can fulfill internal objectives while using indicators common to the industry that are better understood by Suppliers and Customers.

➔ The objective of the recommendation is not to standardize Supplier delivery performance systems within the industry but to harmonize the indicators used in Supplier delivery performance systems.
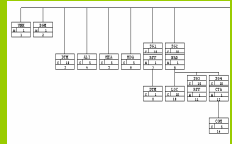
For the suppliers :

➔ by harmonizing measurements of logistics performance within the industry

For the customer :

➔ by facilitating the development or the enhancement of Supplier appraisal systems based on standard indicators

The recommendation is a complement to the Global MMOG/LE.

➔ Global MMOG/LE supports self-evaluation of a plant's logistics capability

➔ MMLKPIs measure the effectiveness of the logistics processes between parties

Example of benefits

Improving the **supplier delivery accuracy** enables to **improve customer delivery accuracy**

Improving the **supplier delivery accuracy** enables to reduce **stock level**

Improving **quality of ASN** enables to reduce **receiving cost**

Improving **quality of labels** enables to improve **inventory accuracy** (mislabelling…)

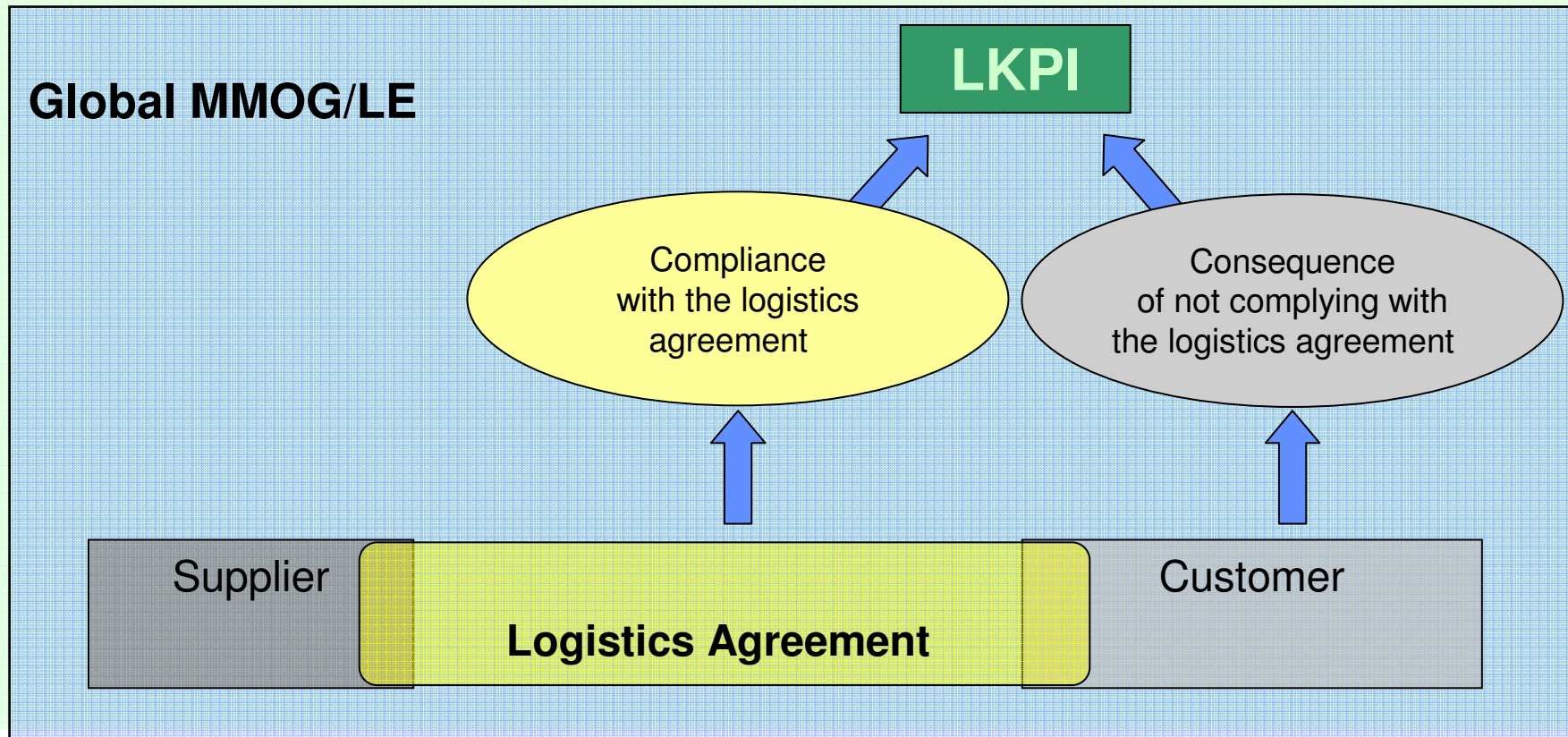Improving **respect of packaging specification** enables to reduce **labor over cost** (repackaging…)
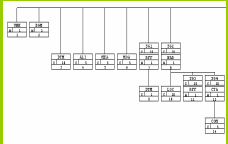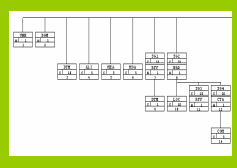
Role of the recommendation

The LKPI recommendation defines standard indicators measuring the **effectiveness** *of the logistic shipping processes of the Supplier*

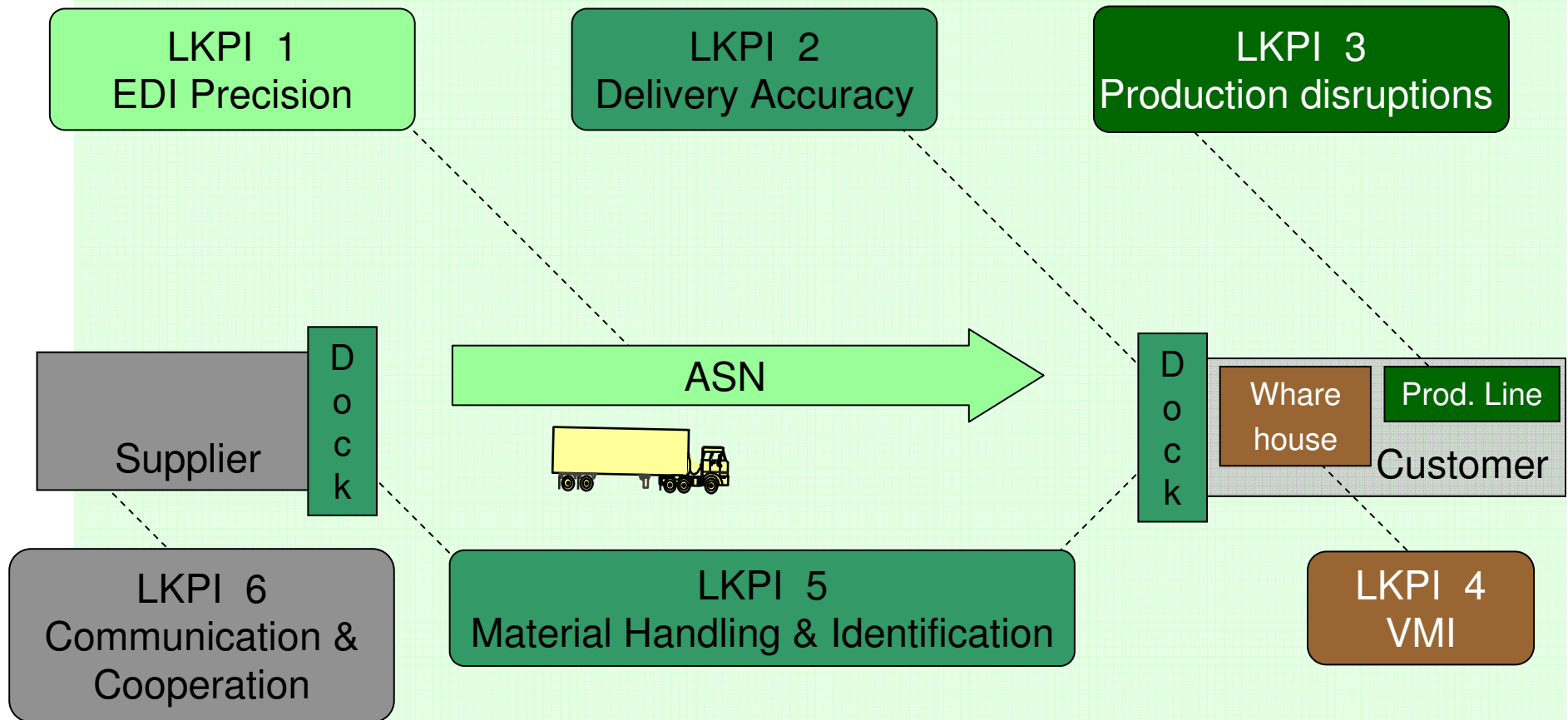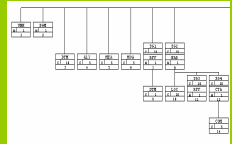*It measures the adherence to the logistics agreement*

Global MMOG/LE

LKPI

Compliance with the logistics agreement

Consequence of not complying with the logistics agreement

Supplier

Customer

Logistics Agreement

Description of the indicators

The adherence to the Logistics Agreement is measured by 6 indicators

LKPI 1
EDI Precision

LKPI 2
Delivery Accuracy

LKPI 3
Production disruptions

Dock

ASN

Dock

Whare house

Prod. Line

Supplier

Customer

LKPI 6
Communication &
Cooperation

LKPI 5
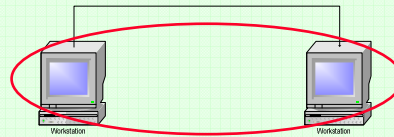Material Handling & Identification

LKPI 4
VMI

EDI Precision

Definition : EDI precision measures the Presence and Accuracy of ASNs

Presence :

Two things must function in order to receive EDI messages correctly:
1 The EDI communication must work.
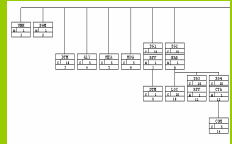
2 The syntax (structure) of the data in the received file must be correct.

```
UNB+UNOA:1+O0013000015BEHR2:OD….
          .'
UNH+1+AVIEXP:3::OD'
MID+823057+030709:0945'
CDT+::::::BX35D'
SDT+:::::: BX35D '
CSG+::::::BS8CA+086+086GIBBS'
DTR+GP–KS 771+GHEMAR–S'
ARD+30636905+3:PCE
```

Accuracy :

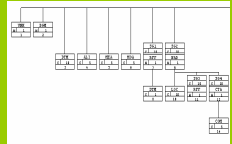**3 The actual data must be correct compared to the real shipment**

Delivery Accuracy

Definition :

- The Delivery Accuracy indicator measures the compliance of the order regarding quantity and time, according to Logistics Agreement and the supply conditions.

- Scope : The indicator can be applied when the call-off is expressed in terms of firm quantity & time slot.

- For each part number, with a **quantity**, a **time slot** and the **place to deliver** agreed between parties, the order is classified

  - **as OK if all criterias (quantity, time slot, place to deliver) are OK**
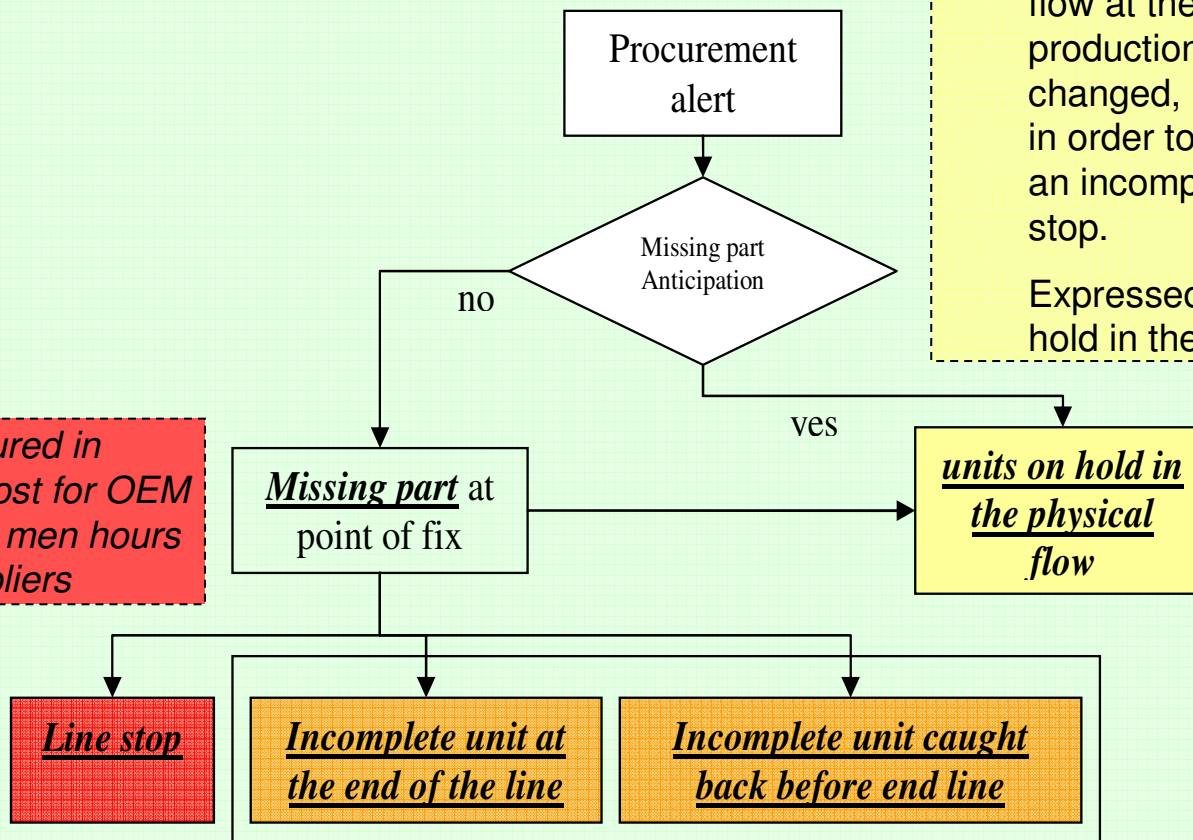 - **as not OK if any of those have failed**

Production Disruptions

Procurement alert

↓

Missing part Anticipation ◇

A sequencing modification occurs when the normal unit flow at the entry of the production shop must be changed, retaining some units, in order to avoid a missing part, an incomplete units or a line stop.

Expressed in number of units on hold in the production flow

no → **Missing part** at point of fix

yes → **units on hold in the physical flow**

Line stops measured in number of units lost for OEM and in number of men hours (tbc) lost for suppliers

Line stop

Incomplete unit at the end of the line

Incomplete unit caught back before end line

A unit is accounted as an incomplete unit if a part is missing at point of fix when the unit requires the part for assembly.
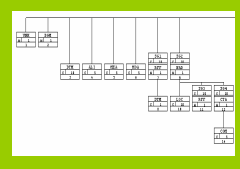
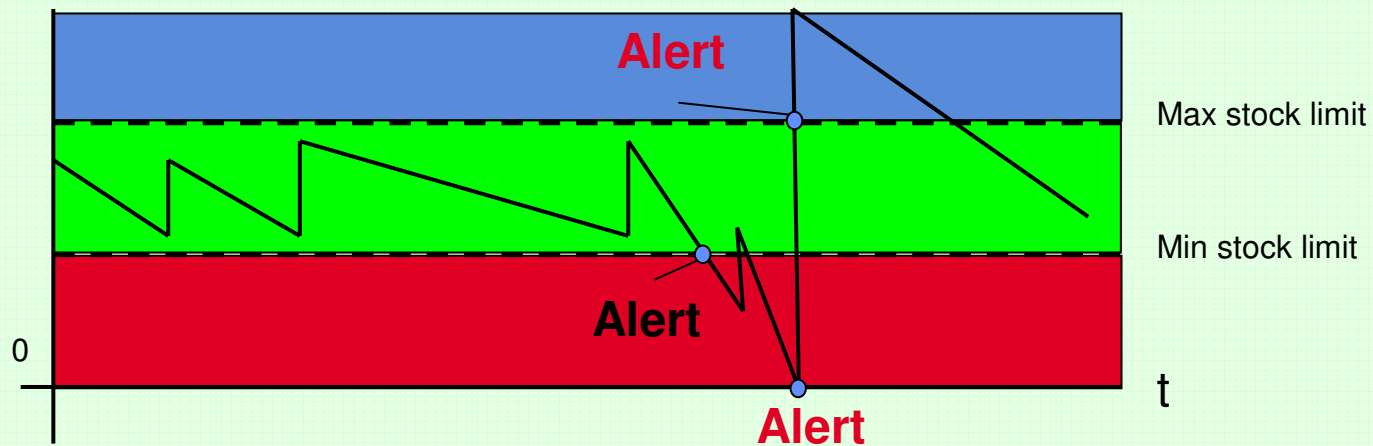Expressed in number of units

Vendor Managed Inventory

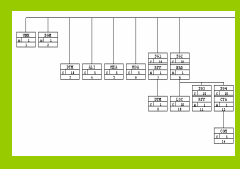## Definition

Indicator based on stock alerts. Stock is measured at each stock movement:

3 types of alerts (in order of gravity): **> Max**

< Min

zero stock

Qty.

Alert

Max stock limit

Min stock limit

Alert

0

Alert

t

Material Handling & Identification

Definition :

- The Material handling and identification indicator measures *4 types of specifications*:

  - ➢ **Packaging specification**

  - ➢ **Labelling specification**

  - ➢ **Delivery document specification**

  - ➢ **Transport specification**

- **Demerit-points** are associated at each non-conformity

Communication & Cooperation

Definition :

Measures the Supplier performance on the following processes:
- Reception of Customer requirements
- Handling of logistics incidents
- Cooperation with logistics projects

•**Self-sufficiency:** Capacity of a Supplier to understand and apply the logistics processes as defined in the Logistics Agreement

•**Reliability:** Quality of the effectiveness of the action plan

•**Responsiveness:** Conformity with the required time set by counting late response

•**Supplier Problem notification:** Ability to notify problems in advance

•**Availability:** Facility to contact the Supplier's contact person
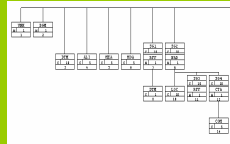
•**Flexibility:** Flexibility of the Supplier in case of order changes

MMLKPI

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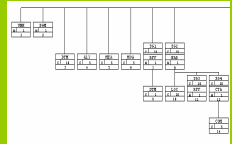| N°	Indicator	Main criteria	Sub criteria
1	ASN Performance	Presence/Timeliness	
		Accuracy	
2	Delivery Accuracy	Quantity	Actual delivery quantity versus requirement
		Timeslot	Actual delivery time versus requirement
		Delivery Point	Actual delivery point versus requirement
		Part number	Actual part number versus requirement
3	VMI		Sum of days between Min/Max divided by total time span
			Sum (# alert type x grade x weight)/Sum(# alert type x weight) x 100
4	Material Handling and Identification	Packaging	Compliance with packaging design
			Compliance with Quantity
			Cleanliness/Damaged Packaging/Safety
		Labelling	Label not readable
			Mislabelling
			Non-conform label; Missing or incorrect data or logo
		Delivery documents	Accuracy of data (Purchase Part number) on Delivery Note
			Quantity delivered < > Quantity on Delivery Note or ASN
			Parts delivered without Delivery Notes
			Compliance with specified Delivery Note template
			Specific delivery documents missing (customs, control report)
		Unloading/Loading	Compliance with loading/unloading specification
			Compliance with safety specifications
5	Production Disruption	Production Schedule Modifications	Number of Production schedule modifications
			Units on hold on the physical flow
		Incomplete Units at point of fix	Incomplete unit at the end of line
			Incomplete unit held back before end of line
		Lines stop	
6	Supplier's communication and collaboration	Self Sufficiency	Does Supplier understand Customer needs, manage business?
		Reliability	Is concern a repeat concern?
		Responsiveness	Is response to request to Customer demand or response to concern late/overdue
		Availability	Is Supplier contact/contact person readily available?
		Problem Notification	Does the Supplier understand Customer need?
		Flexibility	Is the Supplier flexible to Customer needs and ordering demands?
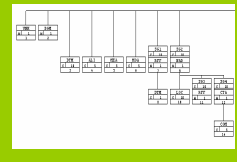
MMLKPI
Global Materials Management and Logistics Key Performance Indicators

Achievements/Next Steps

➔ Global MMLKPI recommendation Agreed

➔ Logistics Functional Committee validation November 2006

➔ ODETTE board validation December 2006

➔ Publication by year end 2006

➔ Common training kit for Global MMOG/LE and MMLKPI

➔ KPI project on Logistics Service Provider performance started

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