

# Weight Verification of Containers

Amendments to SOLAS Chapter VI

**10<sup>th</sup> Southern Asia**  
**Ports, Logistics and Shipping 2015**  
**India**

THE LEELA MUMBAI, INDIA  
TUESDAY 15 AND WEDNESDAY 16 SEPTEMBER 2015

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Managing Director  
Avery India Ltd

# What is SOLAS ?

## ■ The International Convention for the **Safety of Life at Sea**

## ■ Origin and early versions

- 1914 - 1<sup>st</sup> Treaty was passed in response to Titanic disaster
- 1929 - New versions were adopted
- 1948 - Revision
- 1960 - Entered into force on 27 May 1965
- 1974 - Version simplified the process for amending the treaty.
- 1975 - Assembly of IMO decided, 1974 convention should in future use SI units
- 1988 - Version came into force beginning 1 February 1992

## ■ Latest Amendment to SOLAS Convention was passed at IMO in May 2014

## ■ Amendments will be in force from 1<sup>st</sup> July 2016



# Challenges in Shipping



# Industry Concerns

- Poor weight distribution within a container
- In correct Vessel Stowage decision
- Re - Stowage ( Delays / Cause if an overweight loading is identified)
- Injury or Death & Cargo Liability Claims
- Lost Containers overboard
- Delayed Service & Revenue
- Inefficient Vessel operation ( Sub optimal fuel usage)

# Solas Guidelines

- Globally applicable, “the gross mass according to paragraph 2.1” must be verified by the shipper, either by
  - Method 1 - Weighing the packed container using **calibrated and certified equipment**
  - Method 2 - Weighing all packages and cargo items, including the mass of pallets, dunnage and other securing material to be packed in the container and adding the tare mass of the container to the sum of the single masses, using a certified method approved by the competent authority of the State in which packing of the container was completed
- Where the verified weight has not been provided to the ship’s master and his representative or the terminal representative. Container shall not be loaded on to the ship

(Source: SOLAS CHAPTER VI, Part A, General Provisions, Regulation 2)

# Scope of Applicability

- Requirement to verify the gross mass of packed containers applies to
  - All containers to which CSC applies
  - All containers to be stowed onto a ship determined by the Administration to be subject to SOLAS Chapter VI

(Source: SOLAS CHAPTER VI, Part A, General Provisions, Regulation 2)

- The term “Containers” includes

- Standard sea-freight container
- Tank containers
- Flat racks
- Bulk containers

(Source: MSC.1/Circ1475 Annex, Guidelines Regarding the Verified Gross Mass of a Container Carrying Cargo, approved by Maritime Safety Committee, 93<sup>rd</sup> session 14 to 23 May 2014)

# Exclusions

Regulations do not apply to

- Roll-on/roll-off (ro-ro) ships engaged on “short international voyages” where the containers are carried on a chassis or trailer and are loaded and unloaded by being driven on and off such a ship.
  - (Source: MSC.1/Circ.1475 Annex, Guidelines Regarding the Verified Gross Mass of a Container Carrying Cargo, approved by Maritime Safety Committee, 93<sup>rd</sup> session 14 to 23 May 2014)
  - SOLAS regulation III/2 defines "short international voyage" as an international voyage in the course of which a ship is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.
- “Offshore containers” to which the CSC according to the Guidelines for the approval of offshore containers handled in open seas (MSC/Cir.860) and Revised Recommendations of harmonized interpretation & implementation of the International Convention for Safe Containers, 1972 as amended (CSC.1/Circ.138/Rev.1) does not apply

# Responsibility

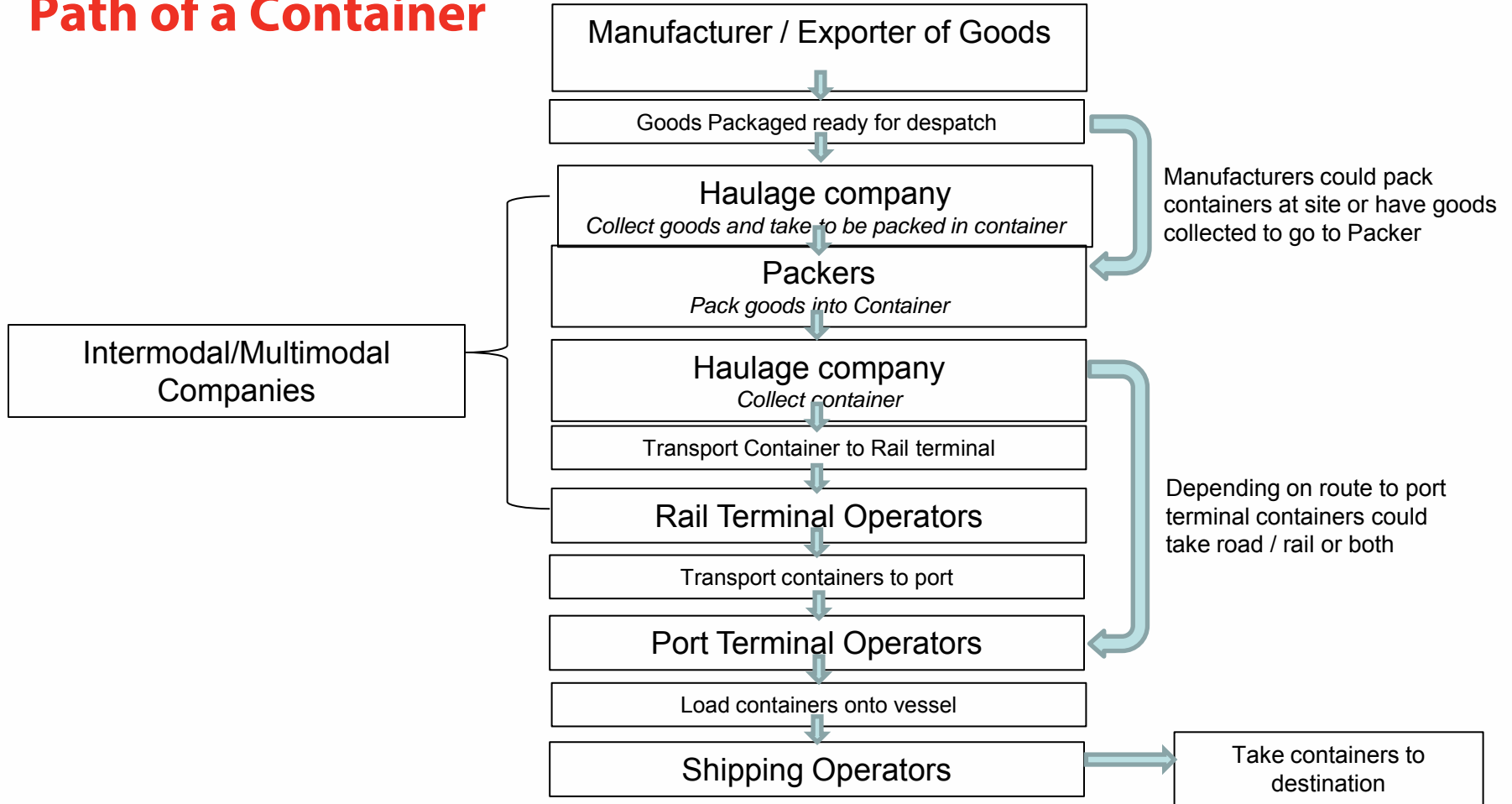
- Main contract is between shipper and carrier
  - Under SOLAS shipper fulfils contractual requirements by providing the verified weight to the shipping line
  - Shipping lines is responsible to provide this data to the terminal
  - Shipper may also submit verified gross mass to terminal upon delivery of the container to the port
- Information must be received in time to be used by master and terminal representative in the ships stowage plan
- Even if shipper uses third party loader, the shipper is still responsible for
  - Accuracy of verified weight
  - Providing this to shipping line



# Enforcement and Penalties

- Enforcement methods and penalties are not defined at present
  - Main sanction under SOLAS is that unless the verified weight has been provided to the ships master or his representative and the terminal operator the container should not be loaded onboard the vessel
- Commercial enforcement possibilities
  - Risk based spot checks
  - Additional costs for repacking container etc
  - Delays
  - Contractual penalties
- Regulatory enforcement possibilities
  - Spot checks
  - Prosecution leading to fines

# Path of a Container



# Container Handling- Weighing Points



# Avery Weigh-Tronix



# Container Handling- Weighing Solutions



# Avery Weigh-Tronix - Product Range

**Avery Weigh-Tronix**  
*Innovative Global Weighing Solutions*

**Avery Weigh-Tronix**

Weighing Systems for industry, processing, transportation, waste and more

The advertisement features a collection of Avery Weigh-Tronix products against a dark blue background. On the left, an orange semi-truck is shown on a large blue platform scale. In the center, there is a tall stainless steel platform scale with a digital display showing '375'. To its right is a smaller stainless steel bench scale with a digital display showing '303'. Further right is a compact white bench scale with a digital display showing '375'. Below these are several smaller white platform scales of various sizes. On the far right, a grey and orange forklift is shown with a large cylindrical container mounted on its forks. The Avery Weigh-Tronix logo is visible in the top right corner of the image area.

# Corporate Family

**Avery Weigh-Tronix**  
*Innovative Global Weighing Solutions*

**RAILWEIGHT**

**Avery Weigh-Tronix**  
Scales for Agribusiness

**DILLON**  
Force Measurement Equipment

**GSE**

*eyecon*<sup>®</sup>

**PACIFIC**  
PACIFIC INDUSTRIAL SCALE

**Brecknell**

**exactrak**  
The Complete Monitoring & Reporting Service

**Avery Weigh-Tronix**

# An ITW Company

## ■ ITW (Illinois Tool Works)

- Fortune 200 global company
- Key business platforms: welding, automotive OEM, industrial packaging, food equipment, construction, polymers & fluids, test & measurement, electronics, decorative surfaces, and automotive aftermarket
- Revenues: \$14.5 billion in 2014
- 10,000 Active Patents
- 800+ operating units in 57 countries with 60,000 employees
- Avery Weigh-Tronix is part of the Test & Measurement Division



# World Class Manufacturing Facilities

Manufacturing sites

Birmingham, England

Fairmont, Minnesota USA

Suzhou, China

Delhi, India

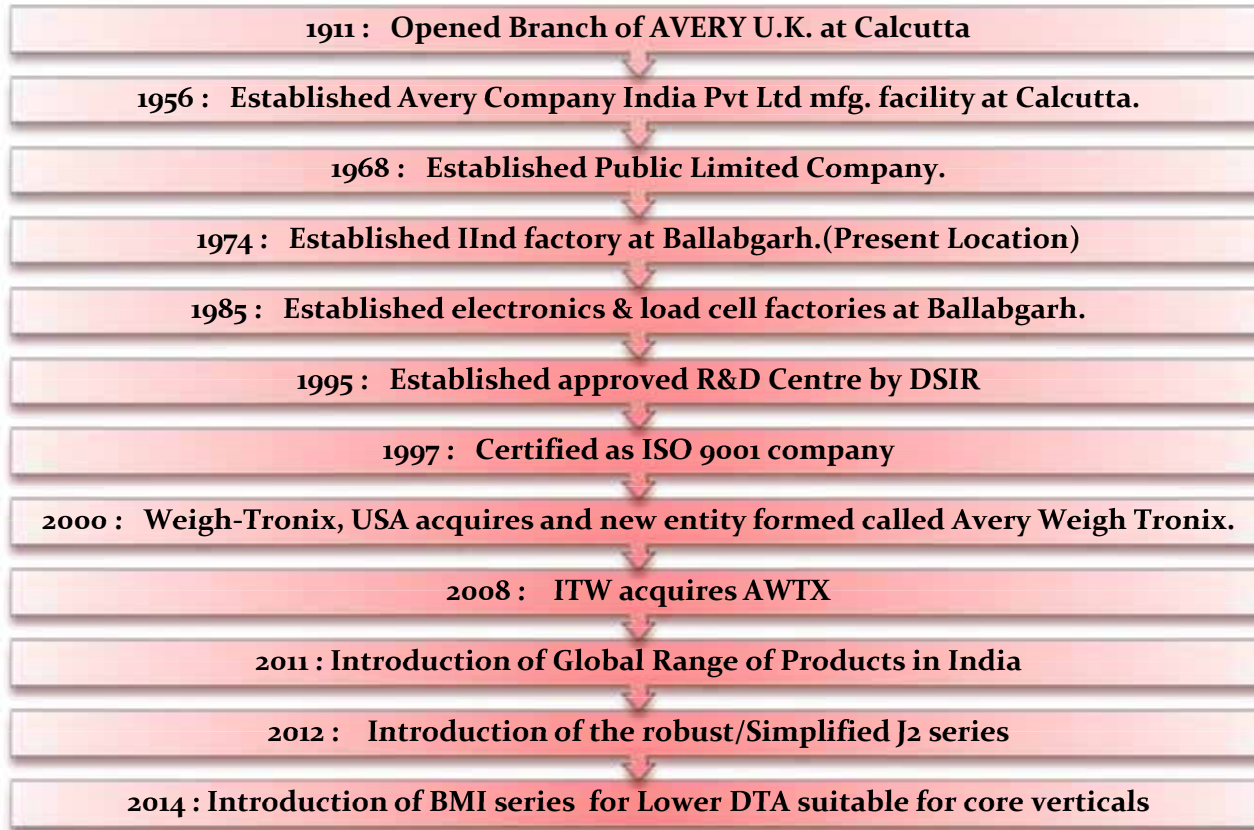


# Innovation and Quality



Applying technology to weighing and measurement systems

# Avery India - Genesis



# Manufacturing Infrastructure - Mech



## ■ Mechanical Facility

- Largest Infrastructure in India for the structure Manufacturing.
- In-house facility for Blasting and Painting.
- Latest MIG welding machine.
- Qualified welders.
- Skilled worker with decades of weighing experience.

# Electronic Infrastructure-Load Cells



## ■ Electronic Facility

- Center of excellence for manufacturing load cell.
- Clean room of Class 10,000.
- Capability of manufacturing load cell of 6,000d.
- State of art equipments.
- Skill Employers with more than 100 years of Experience

# Road Weighbridges

Avery Weigh-Tronix



Wei ghbri dges

Steel or Concrete Decks  
Legendary Reliability  
Warranty

Avery Weigh-Tronix

# Unmanned - Road Weighbridges



# Rail Weight

Avery Weigh-Tronix

## RAILWEIGHT



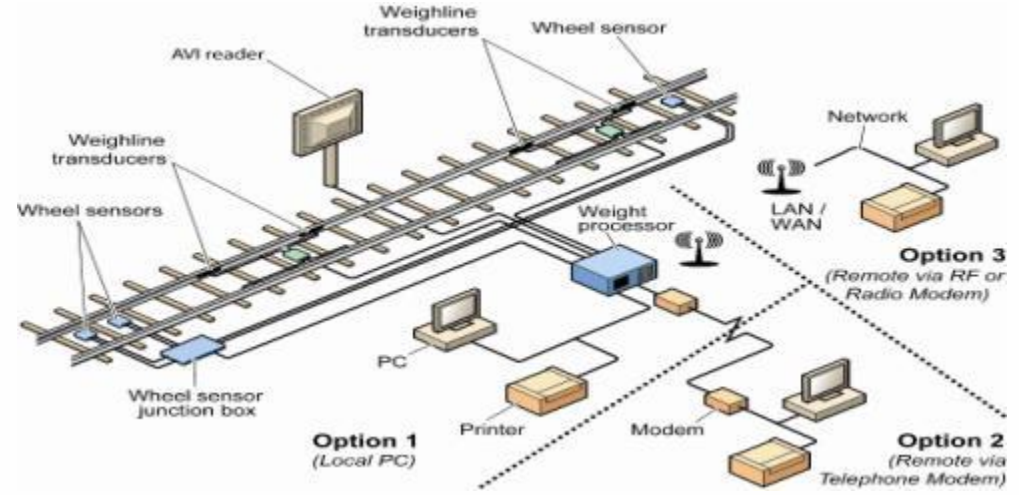
High speed in-motion rail weighing

Avery Weigh-Tronix



# Rake weighing – Control Point

- Dynamic weighing for optimal efficiency
- Trade approved weighing of up to 80km/h
- Rail transducers installed to reduce civil works and downtime associated with pit type rail weighbridges
- Accurate to 0.2% total train weight / 0.5% wagon weight



# Forklift Scales

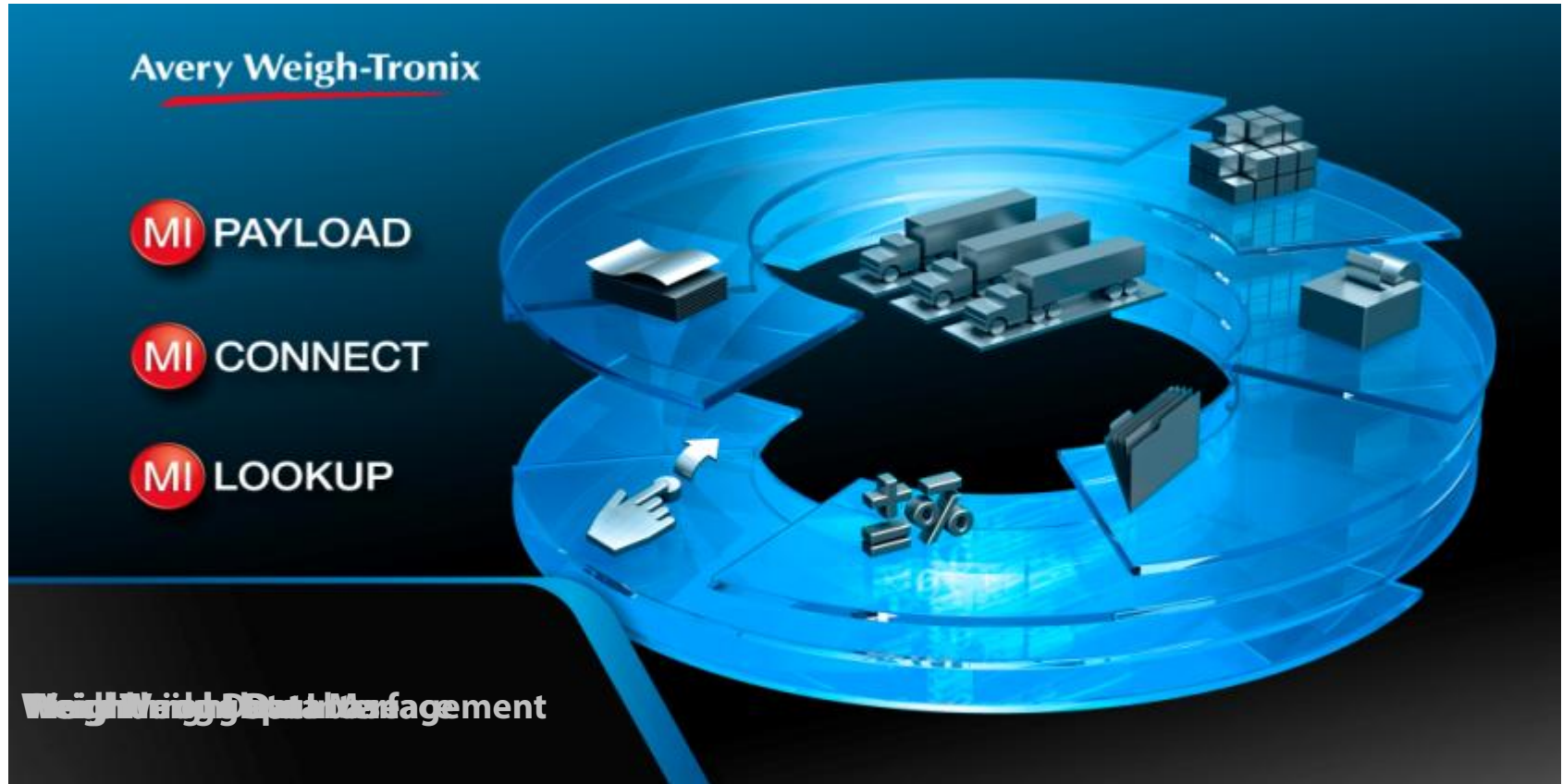


# Crane Scales

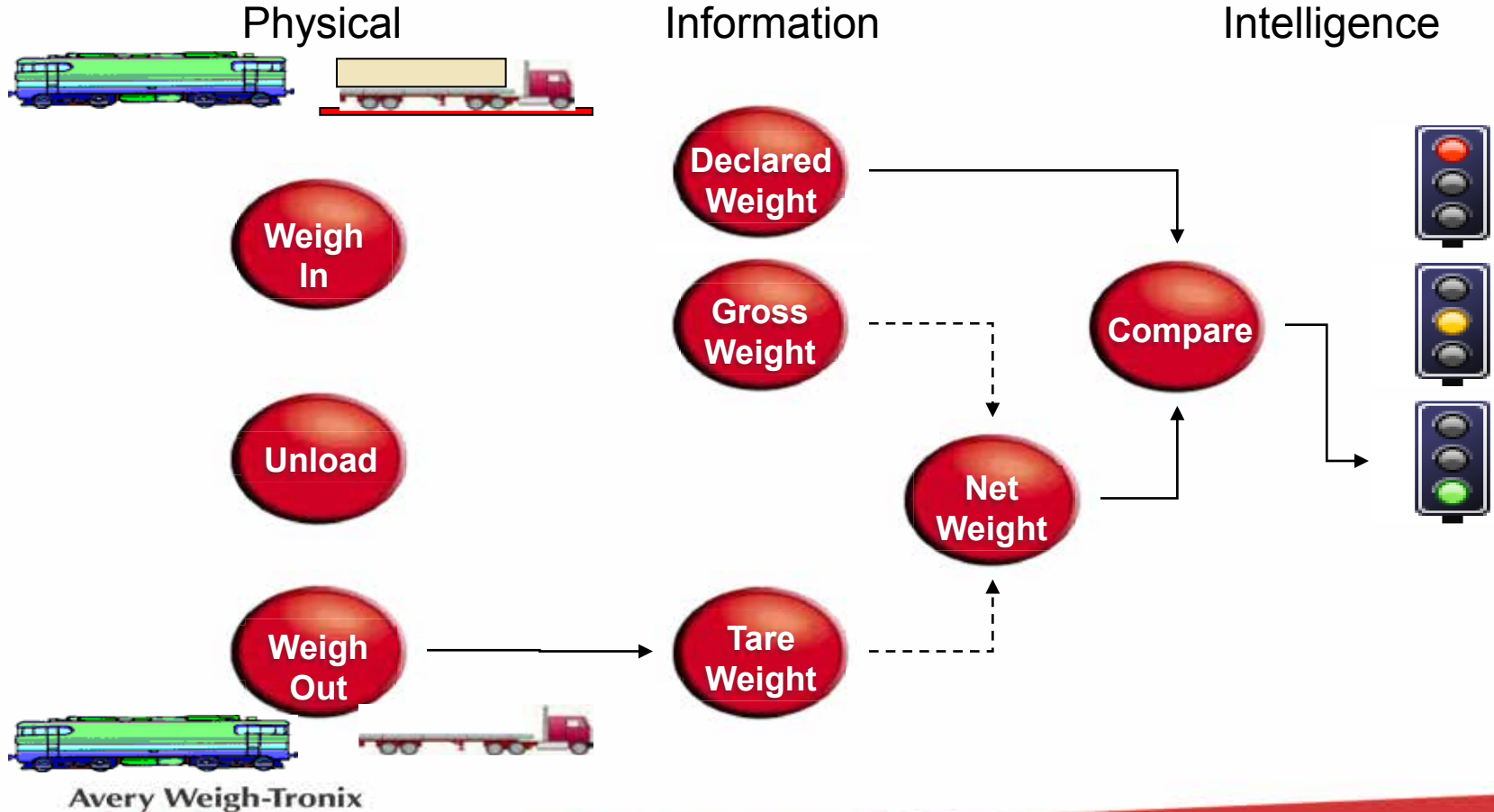
Another weighing application we were involved in recently.



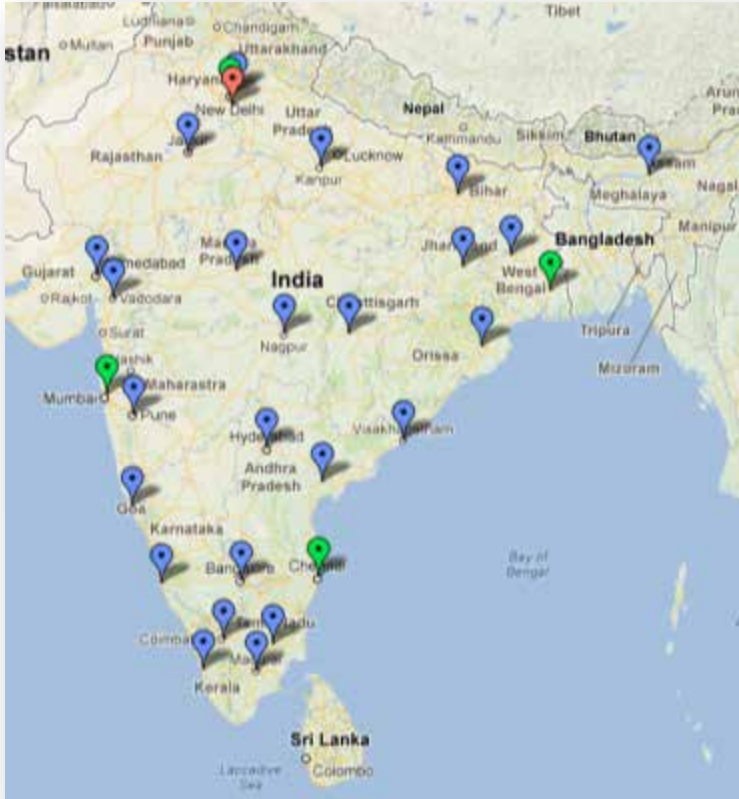
# Software Solutions



# Weighing provides a Control Point



# Sales & Service Infrastructure



## ■ National Network Comprising

- 30 Sales and Service office.
- 58 Service location.
- 165 Qualified & Experienced engineer for after sales service.
- Global support.

Website : [www.averyweigh-tronix.com](http://www.averyweigh-tronix.com)

# Existing Customers



# Associates



International  
Cargo  
Handling  
Co-ordinator  
Association



MSC  
to get answers for  
Maritime Safety  
Cooperation  
in  
the shipping industry





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