

# Standardisation for Subsea Processing - Identifying the key parameters

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# Standardisation

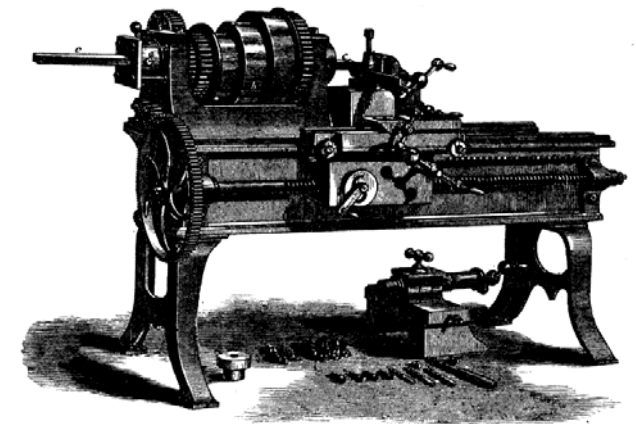
*"Architects and engineers generally specify such unnecessarily diverse types of sectional material or given work that anything like economical and continuous manufacture becomes impossible. In this country no two professional men are agreed upon the size and weight of a girder to employ for given work."*

*Letter to The Times from a 19<sup>th</sup> Century Iron and Steel Dealer*



# It all started with a bolt

- The first example of standardisation
  - Whitworth Standard Bolt (WSB).
  - The WSB was responsible for enabling the first ever mass produced marine engine.
- What motivated this innovation was the demand for industrialisation.
- All parties involved benefited from an increase in revenue from increased production and shorter lead times.



# What do we mean by standardisation?



For this vehicle, you can choose:

- Gasoline/Diesel Engine and different power output
- Manual/Automatic transmission
- Short/Medium/Long wheel bases
- Van, High roof, Bus, Pick up, Truck
- Ordinary doors, sliding doors
- 15 million combinations

So why is this still a standard product?

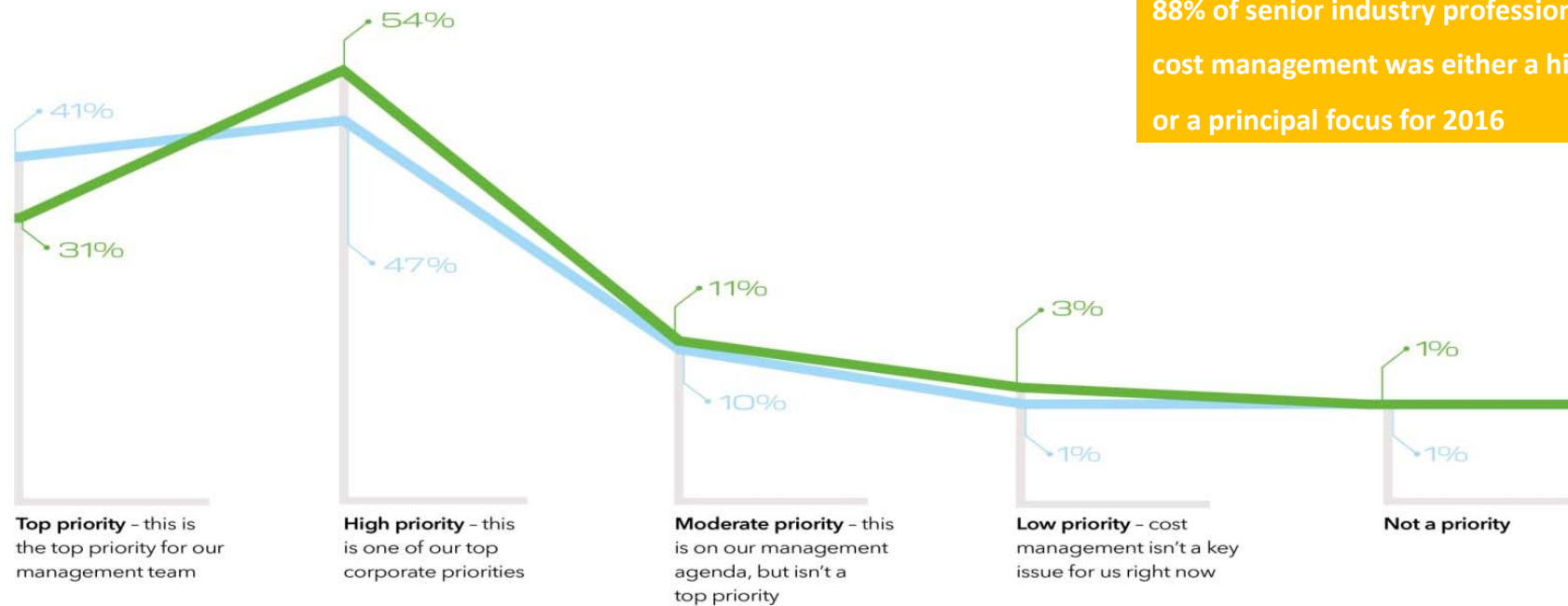
Who's standards does it comply with?

The customer can customise but can not interfere with the manufacturers work processes.

# Why standardize subsea processing?

- The subsea industry is now extremely cost focused.

Priorities for managing cost in the year ahead

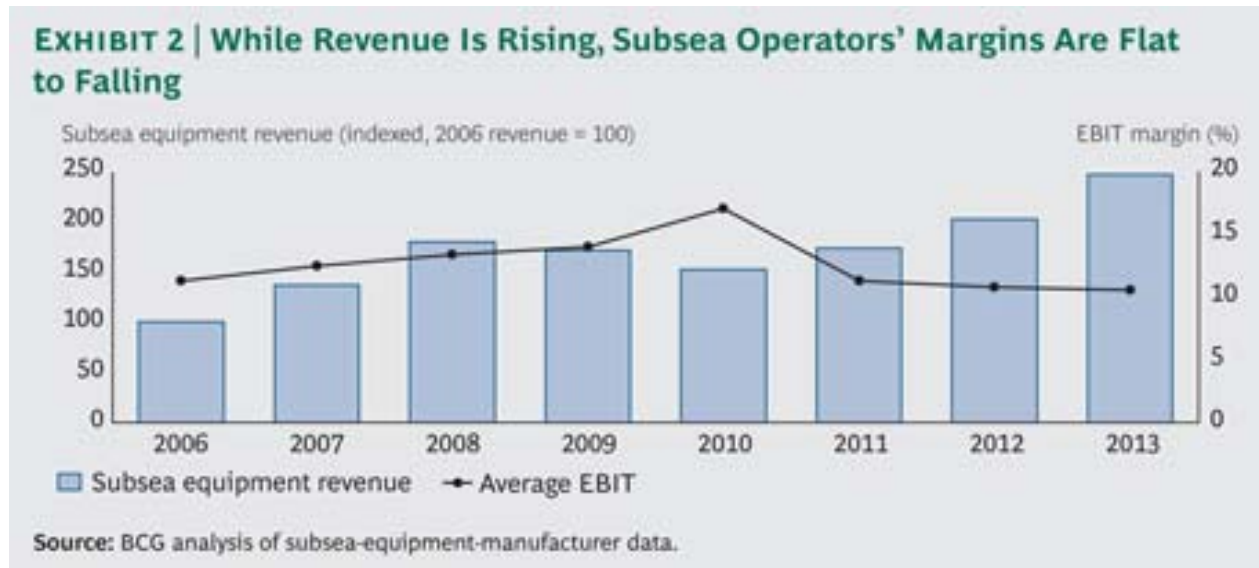


88% of senior industry professionals said that cost management was either a high priority or a principal focus for 2016

■ 2016 ■ 2015



# Where are the costs coming from?



- In 2006 the orders for subsea XTs was marginally more than in 2012.
- The revenue increased by over 50%.
- The EBIT was slightly less.

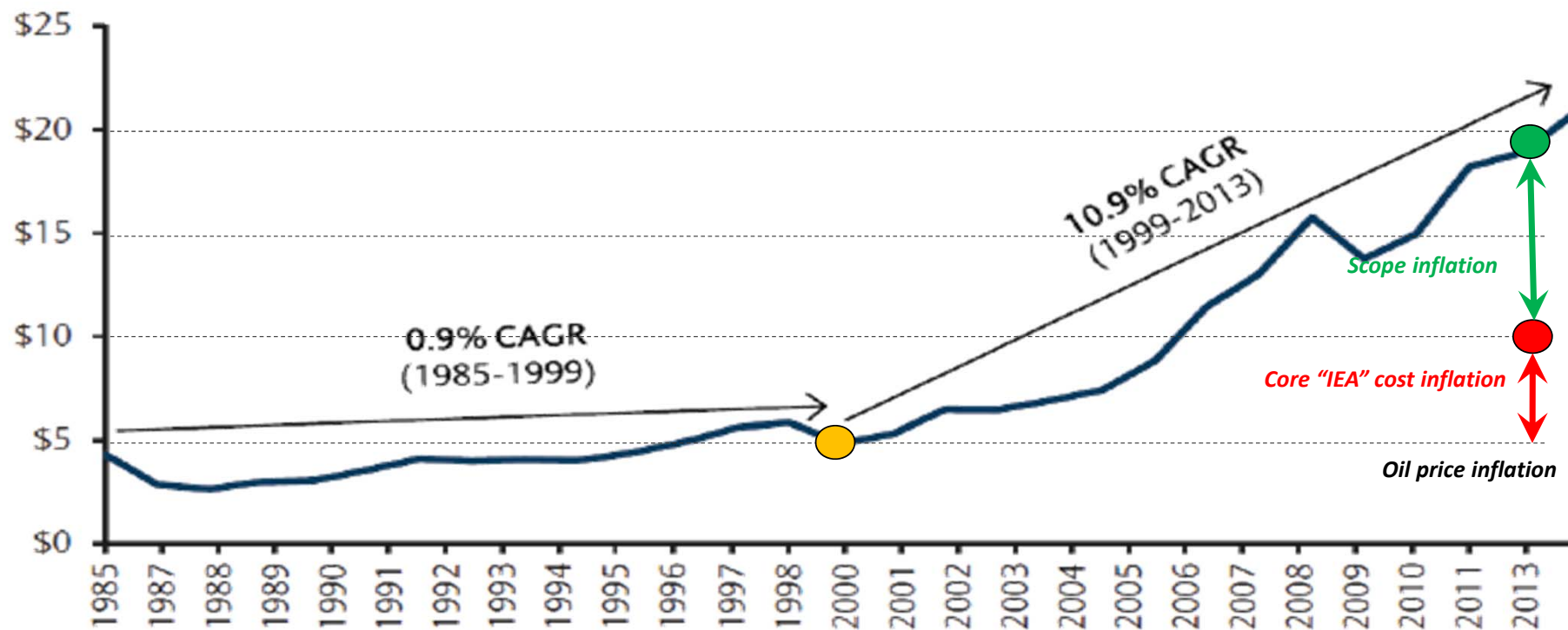
In simple terms, a smaller number of trees were sold at an increased cost, with marginally less earnings.

\* <http://www.energyrealities.org/technology-and-innovation/the-final-frontier-conquering-the-seabed/>

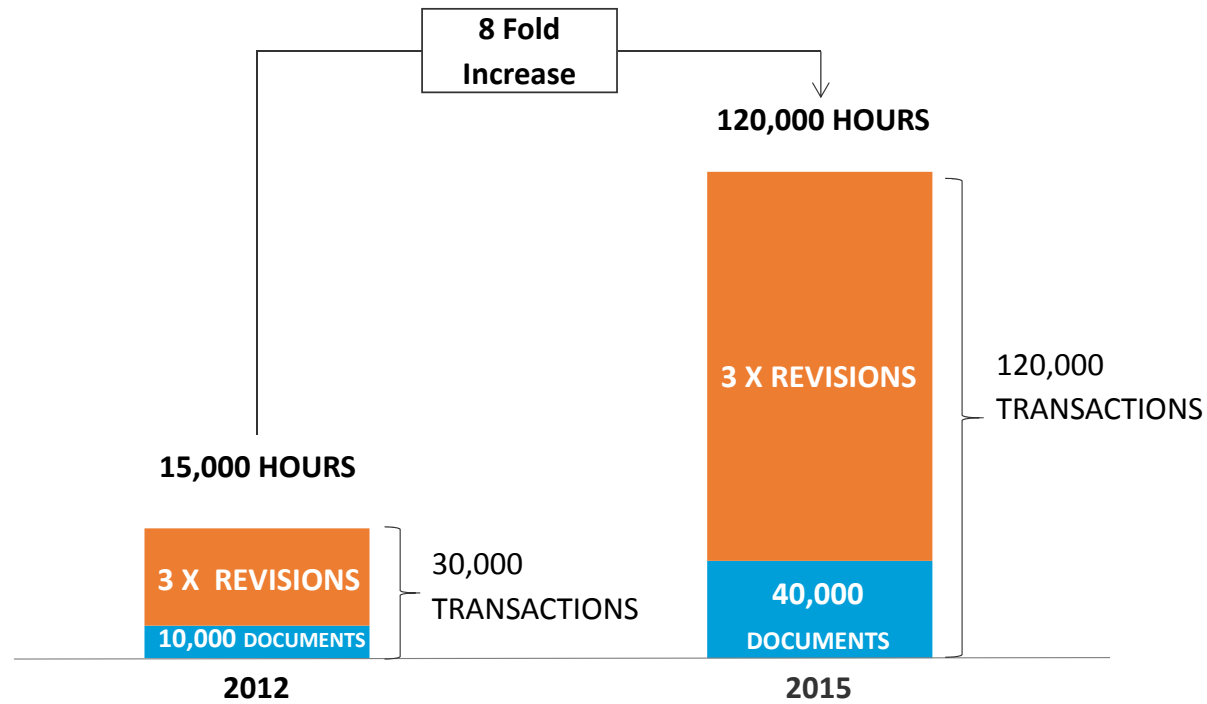


# Costs as CAPEX per barrel

- Subsea is expensive and the costs have been increasing



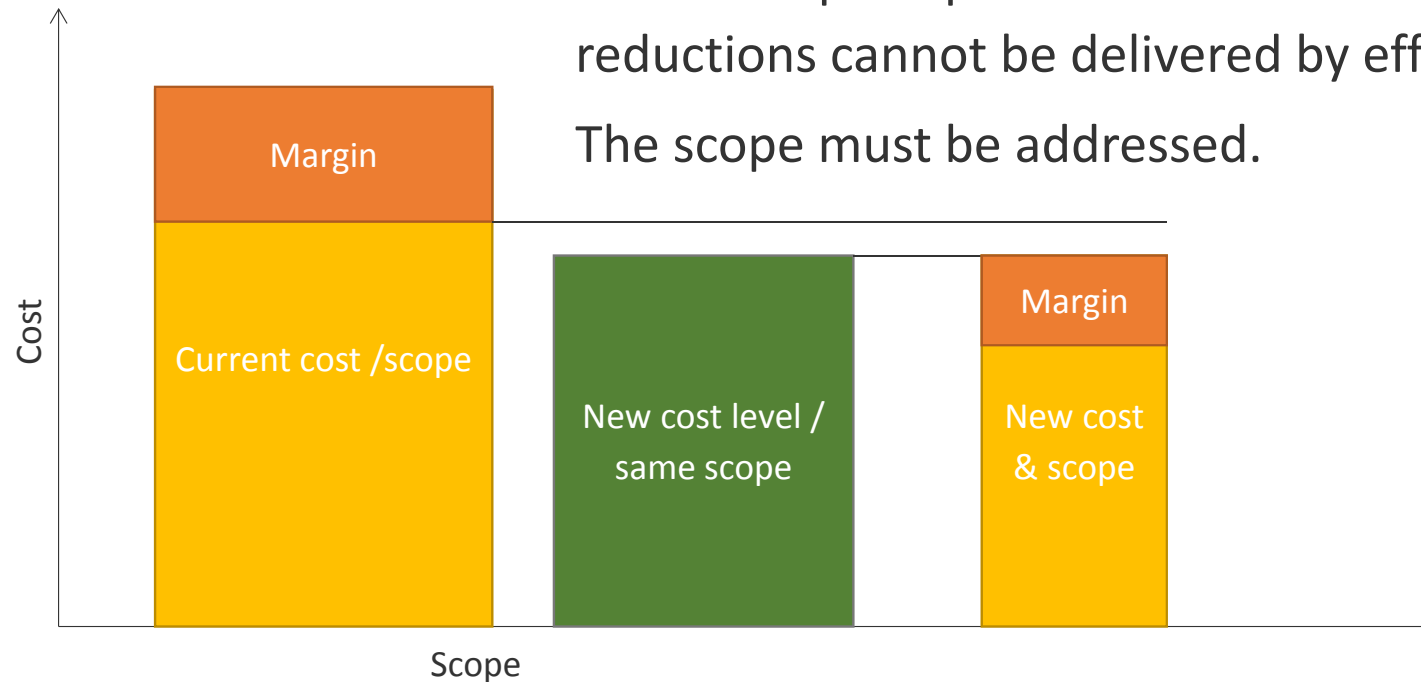
# An example of scope inflation





# The scope should be addressed

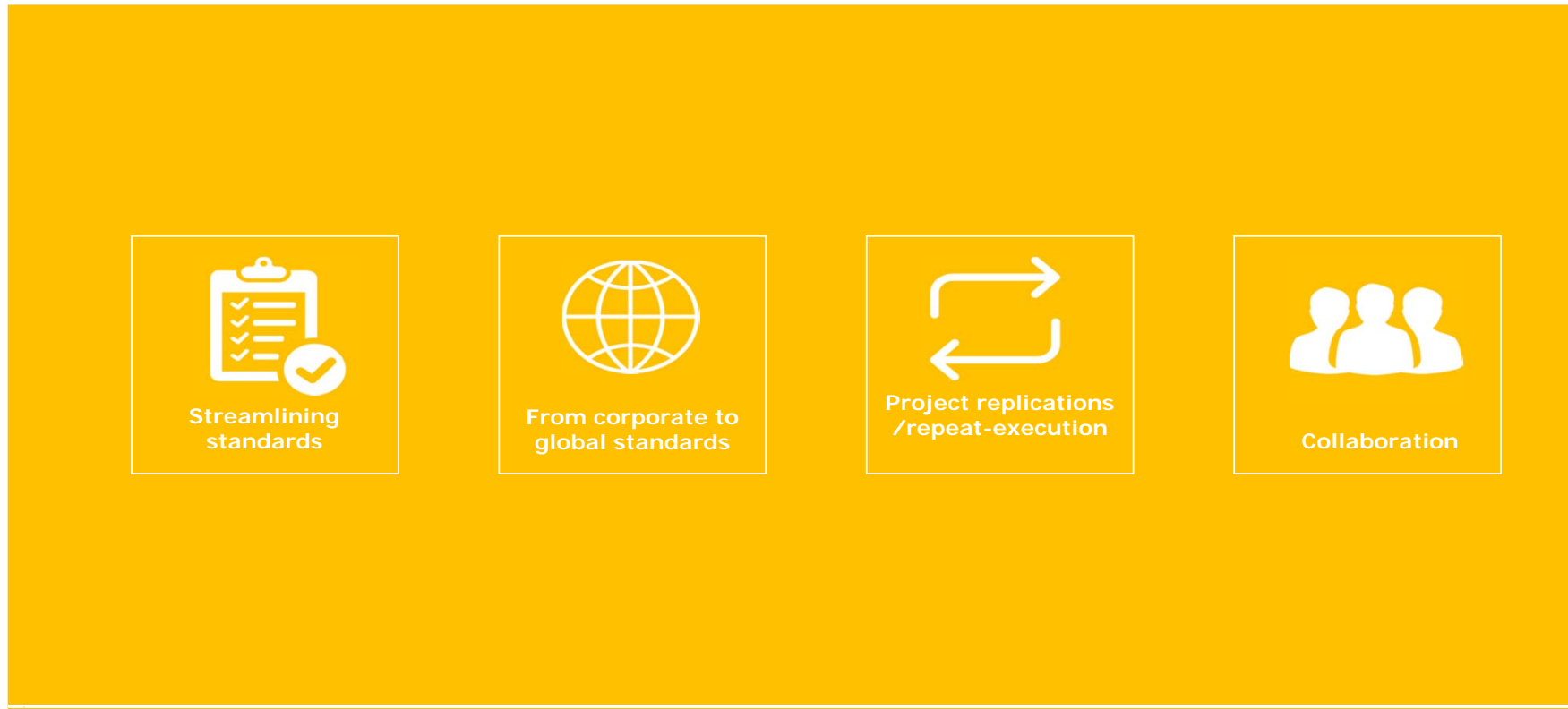
If the new price point is below the cost level, then these reductions cannot be delivered by efficiencies alone. The scope must be addressed.



Standardisation must address more than just the nuts and bolts  
Standardisation must result in simplification



# A broader view on standardization



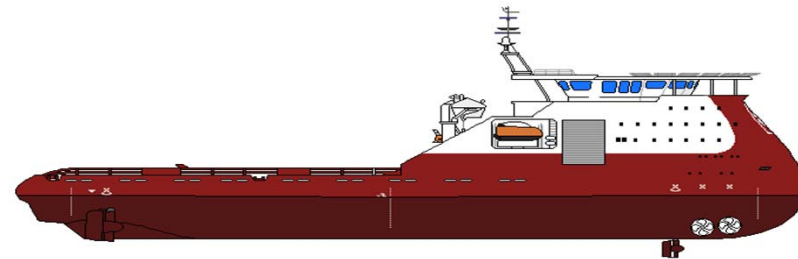
# What should be the target of standardization?

- If we are to drive greater standardization there must be a motivation.
- Motivation comes from a reduction in costs to all parties.
- Projects should become repeatable.
- Equipment should be re-useable.
- Standardization creates predictability throughout the supply chain



# What should be the target of standardization?

- Gaining efficiency by avoiding ambiguous requirements.
- Taking away requirements that do not contribute to function or quality.
- Competition on equal terms.
- Standards that will *not restrict innovation*.



# What is needed for standardization to work?

- Rules and standards are most efficiently created with Companies, Contractors and Suppliers in the same room.
- Standards should utilise best industry practice, and perhaps best practice across industries.
- The industry should move from Company Standards to Industry Wide standards.
  - Company standards (procedures) have a positive effect on businesses because they help improve internal processes.
  - When it comes to relationships between suppliers and customers, industry-wide standards are the main instruments used to lower transaction costs.



# Summary

- Standardization is more than identical parts or materials.
- Standardization should lead to simplification.
- Standardization should lead to a reduction in costs both materials and hours.
- The entire supply chain must see the benefit of industry standards
  - All parties must gain an advantage from standardization.
- Standardization allows flexibility for custom design.
- Standardization allows for innovation.

