Who we are

- Netherlands based tidal turbine manufacturer
- Fully commercial since 2011
- Proven technology
- Worldwide network
diferences in development.
Clean, Sustainable and Reliable energy solutions

**History**

- **1858 (150 years ago)** Colonel Drake drilled for the first time deeper than 10m for oil.
- **1913 (100 years ago)** Ford starts serial production
- **1993 (20 years ago)** Offshore wind starts (wind turbines exist for 700 years)
- ???? Oil depletion.
Clean, Sustainable and Reliable energy solutions

The economic mechanism of serial production.

15 % learning curve

<cost as function of installed power in MW>
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Where are we now?

- **Research & development**
  - Wavec
  - Emec
  - TTC

- **Government**
  - Netherlands
  - Portugal
  - EU

- **Marine energy initiatives**

- **OEM Industry**

- **Shipbuilders Offshore Energy**

- **Mass production**
  - Feed in tariff
  - Risk capital
  - Subsidy
  - Grants
  - Venture capital
  - Seed capital

- **SME initiatives**
- Incubator schemes
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Different approaches.
Our Learning Curve

1999 Venturi, floating

2002 - Ring generator

2005 - Horizontal axis

2008 - T50-A

2010 – commercial

... a Proven Product
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How industry starts

- **T ford**: 15 kW - 75km/h

- Tocardo industry is @ tipping point of serial production.
  - 10 years of experience
    - 5 years of continuous testing
  - Niche market in near shore.
  - Feed in tariff (government).
    - Canada & UK leads the market.
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Step by step

Turbines rated from 100 – 500kW tested up to 4,5 m/s
High power under development up to 2MW

Low speed turbine

Tested since 2008

High speed turbine
Oosterschelde project

- World’s first tidal plant
- Array of 5 T200: 1 MW
- About 800 NL households

Status

- Committed stakeholders
- All permits obtained & start production 1-1-2014
- Operational in summer 2014
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the (Teamwork) slingshot model

concept

idea

Return on investment

income

products

sales of shares

independent profitable company

Sales company

products

income