



Vestas[®]

Wind. It means the world to us.[™]

The Largest Tower Factory in the world

The story behind the Pueblo project

Knud Bjarne Hansen, President, Vestas Towers

- With Vestas for 20 years
- Educational background as Marine Engineer
- Held the position as President of Vestas Towers since 2005



Vestas Towers employs 1,094 people around the world...



● United States

Pueblo, Colorado:

- Tower Factory
- Headquarter Hub

● Denmark

Varde:

- Towers Headquarter
- Tower Factory

Esbjerg:

- Supply Centre Europe

Rudkøbing:

- Tower Factory

● Mediterranean

Madrid, Spain

- Headquarter Hub

Taranto, Italy

- Headquarter Hub

● China

Beijing:

- Headquarter Hub

Tianjin:

- Supply Centre Asia

The Pueblo Facility

- Manufacturing of towers for Vestas turbines in North America
- Capacity to produce up to 1,300 towers per year
- Steel is supplied within NAFTA countries
- In 2009 Vestas Towers produced nearly 20% of Vestas' towers at own factories. This percentage can increase to ~45% when the Pueblo facility reaches full capacity



Why does Vestas make its own towers in USA?

- Global capacity constrains
- Not sufficient amount of qualified sub-suppliers



Why is towers manufacturing tricky?

- *Not only heavy steel manufacturing...*
- *Tower design is determined by various factors!*

Design Blades ▶

Design Nacelle ▶

Software ▶

Design Towers ▶



Sub-suppliers are supported by Vestas Towers

- In the region for the region
- The largest part of Vestas' towers is still produced at sub-suppliers
- Mature market – own production
- Demand for flexibility!



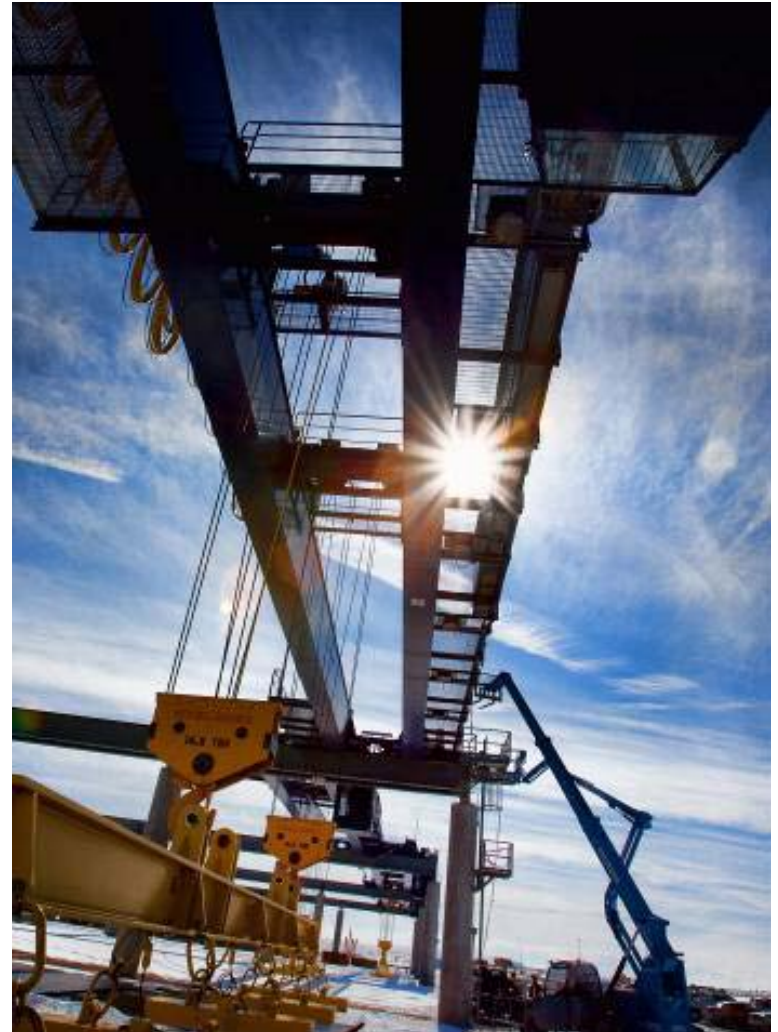
How did we end up in Pueblo?

- In the years 1999-2000, Vestas first laid its eyes on Pueblo
- Our pre-investigations back then, made Pueblo an obvious choice when plans of manufacturing expansion intensified in 2007



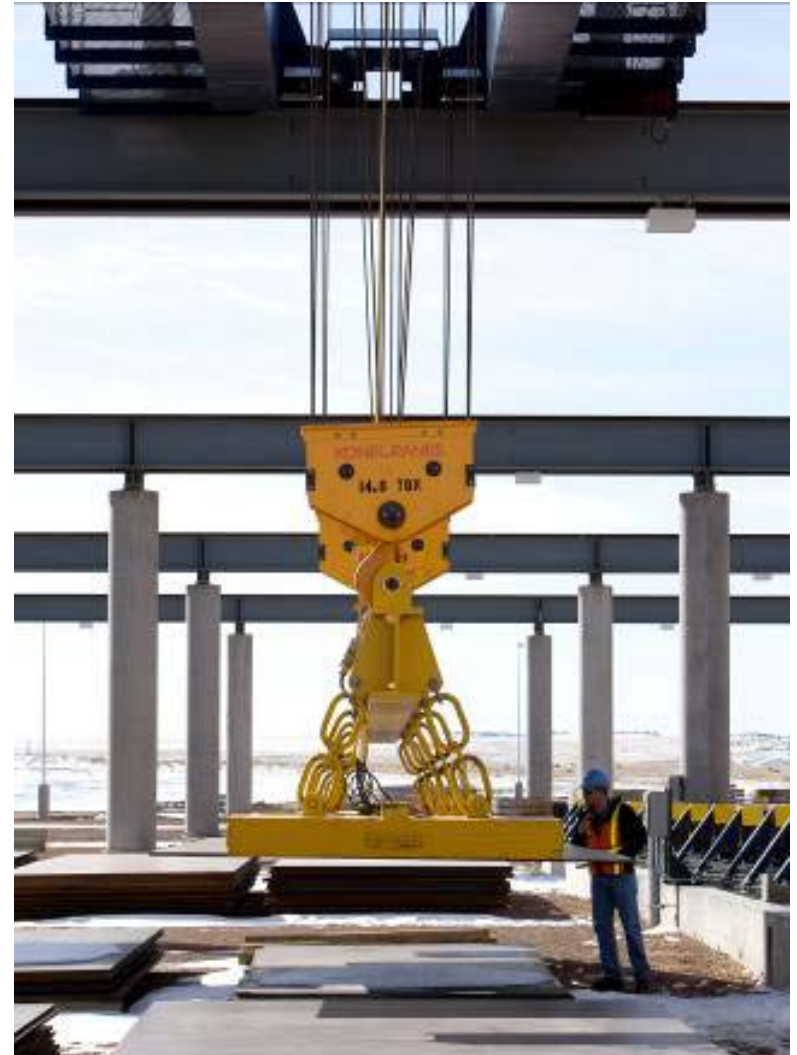
Pueblo attracted us because...

- One-state-manufacturing strategy
- The area has a century-long steel tradition
- The Pueblo area provides a skilled and stable workforce



Built on processes – how is the Pueblo factory different?

- The Pueblo facility was built according to the manufacturing processes!
- We did not put the processes into the facility, but built the factory around the processes...



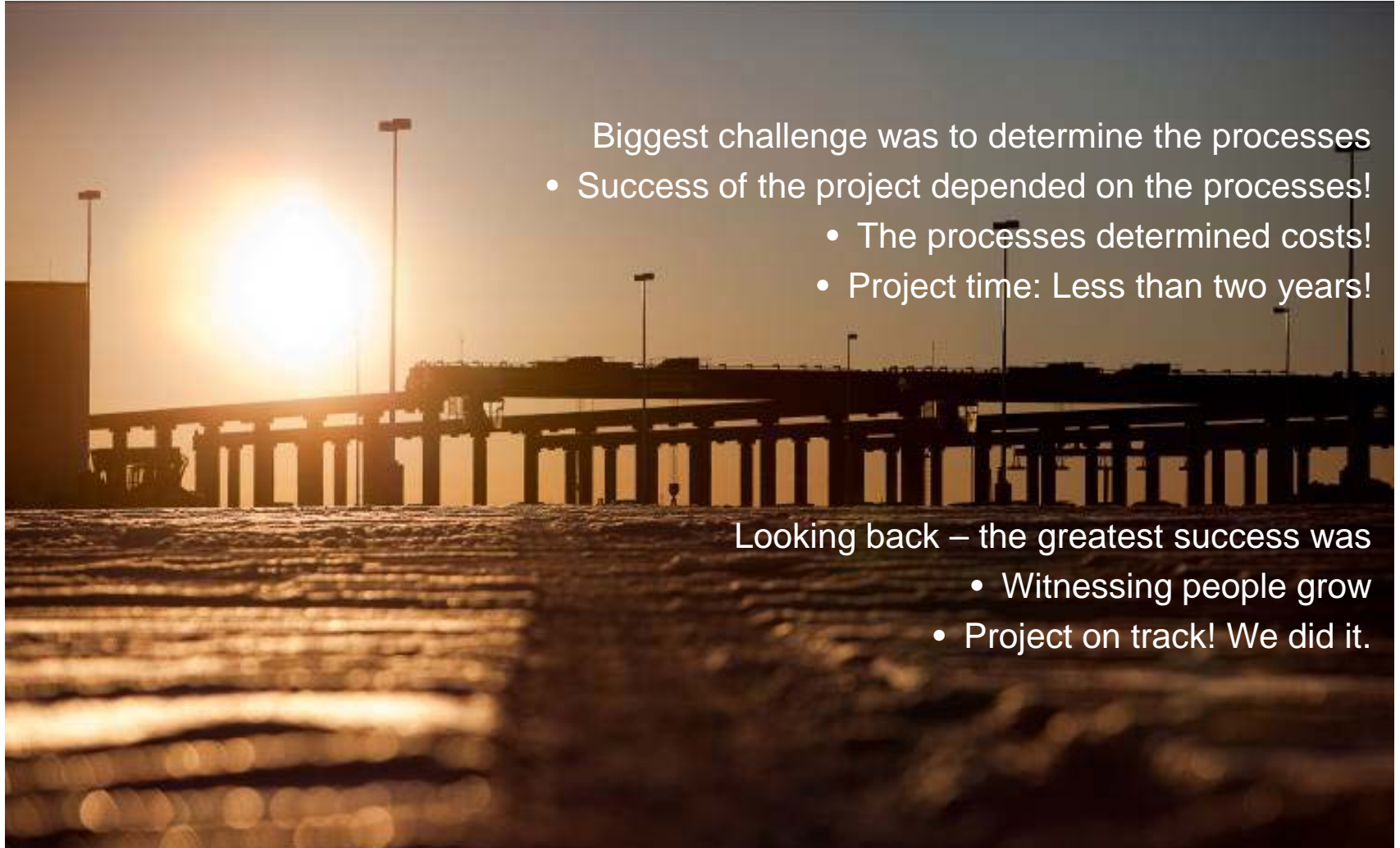
Managing the project

*Introducing project manager behind
Pueblo facility...*

Erik Iversen
Vice President
Production Development
Vestas Towers



Perspective from a project manager...



Biggest challenge was to determine the processes

- Success of the project depended on the processes!
 - The processes determined costs!
 - Project time: Less than two years!

Looking back – the greatest success was

- Witnessing people grow
- Project on track! We did it.

How does Towers develop up to Triple15?



Flexibility more important than ever

World-class safety culture

Focusing on partnerships with suppliers

You are about to tour *the* world's largest tower factory!

The construction site covers more than 12.9 million square feet or 1.2 million square meters.

The main production building covers more than 432,000 square feet or 40,130 square meters - equivalent to seven soccer fields.

Transport of materials and finished products places high demands on infrastructure, with a total of nearly 8 miles or 12.8 kilometers of railway tracks at the site.



You are about to tour *the* world's largest tower factory!

The factory will process more than 200,000 tons of steel per year.

This is enough steel to build two full-scale copies of the Golden Gate Bridge in San Francisco.

or

28 copies of the Eiffel Tower in Paris



The image shows the top portion of a document. The background is a photograph of a sunset or sunrise over a body of water, with large, dark, perforated metal rings in the foreground. The sun is low on the horizon, creating a bright glow and lens flare. The sky is a mix of orange and blue. The water is dark with some reflections. The overall mood is serene and industrial.

Vestas®

Wind. It means the world to us.™

Q&A

Copyright Notice

The documents are created by Vestas Wind Systems A/S and contain copyrighted material, trademarks, and other proprietary information. All rights reserved. No part of the documents may be reproduced or copied in any form or by any means—such as graphic, electronic, or mechanical, including photocopying, taping, or information storage and retrieval systems without the prior written permission of Vestas Wind Systems A/S. The use of these documents by you, or anyone else authorized by you, is prohibited unless specifically permitted by Vestas Wind Systems A/S. You may not alter or remove any trademark, copyright or other notice from the documents. The documents are provided “as is” and Vestas Wind Systems A/S shall not have any responsibility or liability whatsoever for the results of use of the documents by you. Vestas wishes to acknowledge and respect all copyrights in connection with the illustrations used in this presentation. In case we have unintentionally violated copyrighted material, we want to be informed immediately in order to straighten things out and thus to honour any obligatory fees.