

Otto Bock Health Care

A Partner and Resource for
Prosthetic Research

The Prosthetic Industry and Clinical Research

At Otto Bock we are excited to be here, and to participate in this forum

For years, we have felt that our industry has not done it's homework regarding documenting and “proving” clinical value

We understand the reasons behind this...

The Prosthetic Industry and Clinical Research

The Industry is Small	OB Sales	\$300 MM
	Ossur	\$ 80 MM
	Blatchford	\$ 60 MM

The primary provider of care is decentralized.

The global model for prosthetic care is:

Small numbers of practitioners providing patient away from centers of research expertise

Primary research within the industry investment has focused on the “device” not the patient.

**Outside, institutional research has been limited...
the category has lacked excitement**

Otto Bock and Clinical Research

Otto Bock is actively committed to moving the industry forward.

We are actively pursuing self-funded clinical studies in multiple sites around the U.S.

But...our individual capabilities to do so are limited.
And...we are starting late.

The forum that has been assembled here represents a huge opportunity to move this category of patient care forward.

Otto Bock Health Care

Why are we here?

Otto Bock is the world's largest manufacturer of prosthetic components.

--represent the global standard for "traditional prosthetics" components.

Otto Bock has been/is the industry's technology leader

--current global leader in multiple new technologies

We are passionately committed to advancing research in the overall field...and we're willing to help, partner, support or sponsor in any way we can.

Otto Bock Health Care

Who are we?

Pat Chelf

Brad Ruhl

Todd Anderson

Who are we as a company?

- Company Founded in 1919, by Otto Bock, and several partners
- Original Headquarters---Berlin, Germany
- Original Name – Orthopadische Industrie



Otto Bock

The Company Mission circa 1930...

“The goal of our work and our mission, in this country and the world over, is to help our fellow men, disabled by the loss of a limb or other physical limitations, by providing orthoses and prostheses so superior that they do not regard themselves as handicapped but, once again, feel able to lead a productive life.”

Excerpt from a speech Otto Bock made on the occasion of the company's 20th anniversary:

The Company Mission circa 2003...

“To excel as the global leader in maintaining and restoring human independence”

Otto Bock – the beginning

- **Field of Prosthetics and Orthotics was a Hand Craft**
- **Europe between the Wars**
 - **6 Million Veterans with traumatic amputations**
 - **Huge demand, far outstripping supply**
- **Otto Bock technology premise: to industrially produce prosthetic components that could be assembled by the Prosthetist**
 - **Three Major Components**
 - **Foot/Ankle Unit**
 - **Knee/Shin Unit**
 - **Socket Unit**
 - **All alignable in three planes**
- **“Mass production combined with highest quality”**

Company Relocates to Königsee in 1920



Holzabteilung in Königsee



Schmiede in Königsee

World War II, and After

- **1939--Company “nationalized” by German Government, and management “dispersed”.**
- **Otto Bock research center functioned as national patient care facility with over 60 Prosthetist / Orthotists**
- **War ended with Russian occupation of Thuringen**
- **Konigsee factory with 600 employees came under Russian control**
- **Otto Bock was able to reclaim company management, after WWII and begin rebuilding process, but...**

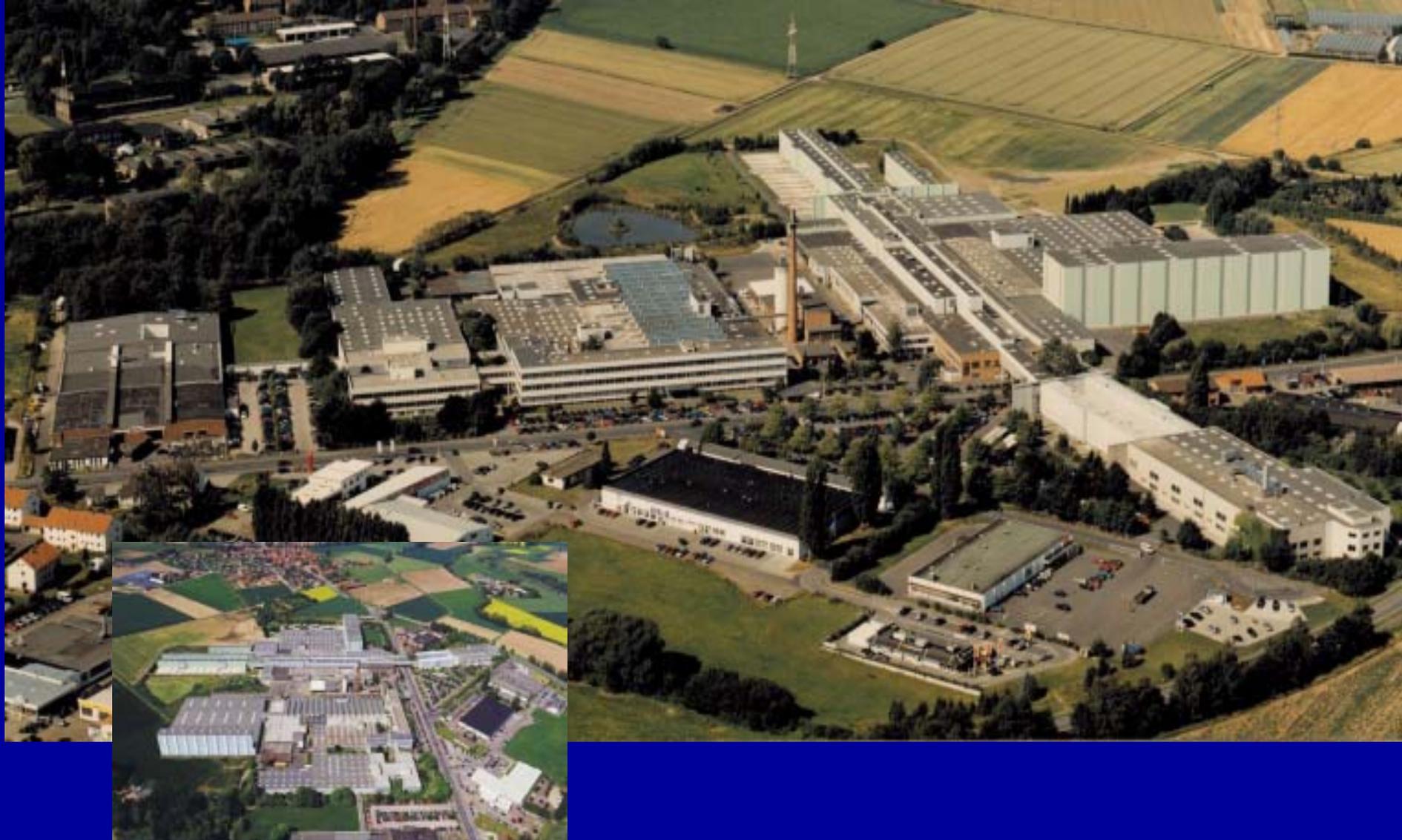
Starting Over.....

- Following seizure of company, OB and family left Konigsee and moved to Duderstadt
- Duderstadt had been a small satellite operation, in the Western Zone
- Building found, new people hired and production started in 1948 in Duderstadt



Building 23 at Eisenberg in Duderstadt — The new production facility for Orthopaedische Industrie.

Present view of Otto Bock Factory in Duderstadt



The Next Technology Platform

- The concept of premanufactured assemblies continued as “standard practice”
- In late 60’s Otto Bock commercialized Modular Structural component system,
 - Keystone of the system was the inverted pyramid, which was patented in 1969
 - Movement away from wood, to alternative materials
 - Steel, Aluminum, and Titanium
- Became the “new” industry standard
- This standard is now used in virtually every prosthesis fabricated, anywhere in the world, in every manufacturers products.



Global Presence

From the original single site, Otto Bock now has a diversified development, and manufacturing footprint.

18 production locations

- e. g.
- Duderstadt (D):
Prosthetic- and Orthotic parts,
socket comfort, Silicon House
- Vienna (A):
High Tech-Prosthetic parts
(Myo-electronics)
- Beijing (VRC):
lightweight-wheel chairs, Prothetics
- Königsee (D):
lightweight-, active- and
electronic wheel chairs
- Salt Lake City (USA):
High Tech prosthetic feet
- St. Cloud Minnesota—Harmony system
- Les Ulis (F):
cosmetic gloves

32 distribution companies

- Europe: 19 locations
- Americas: 5 locations
- Asia/Pacific: 8 locations
- Direct export in
more than 140 countries

7 development centres

- Duderstadt (D),
- Sinsheim (D),
- Egham (UK),
- Salt Lake City (USA),
- Wien (A),
- Sollentuna (S),
- Tongxian (China)

So, What's Next?

- **The world of prosthetics is on the cusp of another wave of technology change**
- **This wave will represent a significant change**
- **A move from mechanical devices that “passively” function as pale imitations of the body’s function...**
- **To increasingly reactive, and interactive components, using multiple technology platforms that begin to approach the function of the lost form.**

Such as...
Microprocessor
Controlled Knee Joints



Such as...

Fast, Efficient Myoelectric Hand Systems



Such as...

Active Vacuum Socket Systems to Manage Limb Volume...Enhance Suspension...And Perhaps prevent re-amputation?



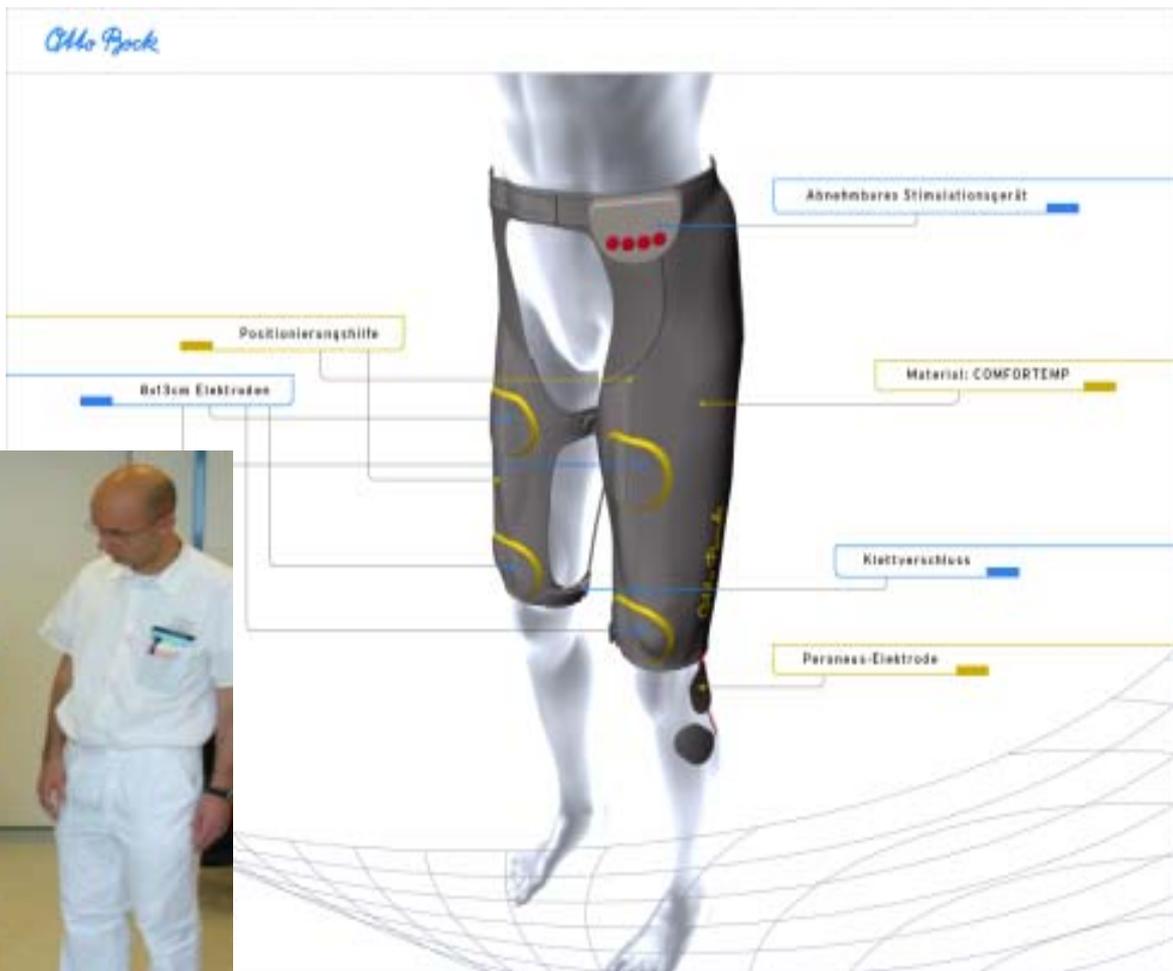
Such as...

High Energy Return Carbon Fiber Feet



Such as:

Easy to Use
Functional
Electrical Stimulation
Products



Such as: Osseointegrated Prostheses



Regardless of the next technology step...
Will it be worth it? And how will we know

Collectively we need to focus on the impact the next technology will have on the patient's functional level of performance.

On the medical benefit any given technology will have on their life.

And not on the technology by itself.

Which is why we're here.