

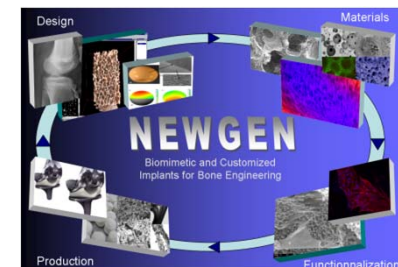
- ✓ **Complete denomination:** CeramTec GmbH, Medical Products Division
- ✓ **Location (city, country):** Plochingen, Germany
- ✓ **Director:** Dr. Ulf-Dieter Zimmermann (CEO)
- ✓ **Contact person in NEWGEN:** Dr. Norbert Schneider, Medical Products Division
- ✓ **Working Group involvement:** WG 3, Functionalisation
- ✓ **Staff:** Medical Products Division 600; total 3600; 18 production sites worldwide
- ✓ **Products:** Technical ceramics for medical and industrial applications

- ✓ **Interest in NEWGEN:** Osseo-integration of ceramic orthopedic implants



CeramTec GmbH

Medical Products Division
CeramTec Platz 1-9
73207 Plochingen, GERMANY



COST Action MP1301

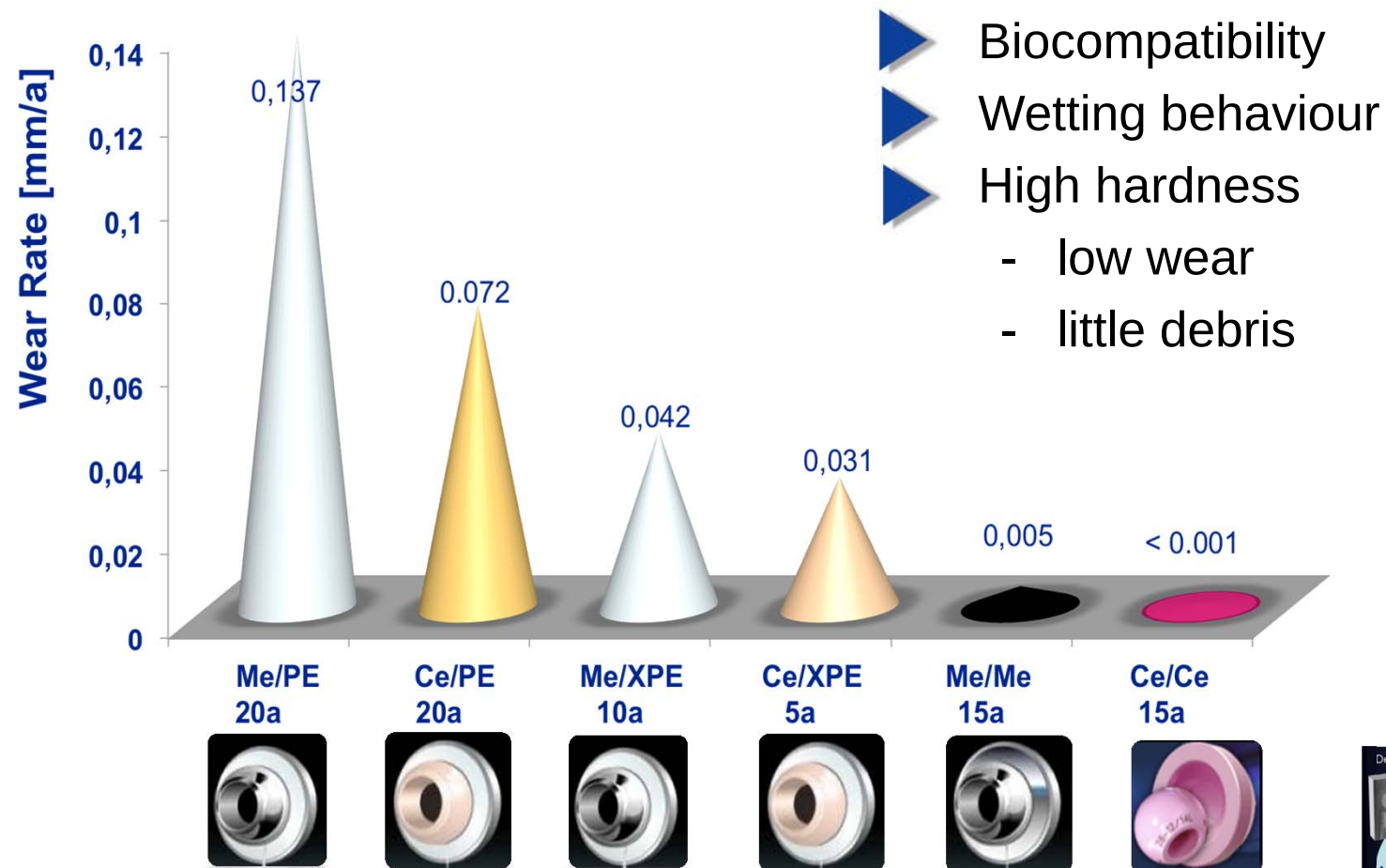
	 Chemical Applications	 Multi-functional Ceramics	 Mechanical Systems	 Mechanical Applications	 Cutting Tools	 Electronic Applications	 Medical Products
 Medical Applications	X	X	X	X		X	X
 Automotive	X	X	X	X	X	X	
 Elektronics		X				X	
 Industry	X	X	X	X	X	X	

Ceramic materials for use in medical applications:

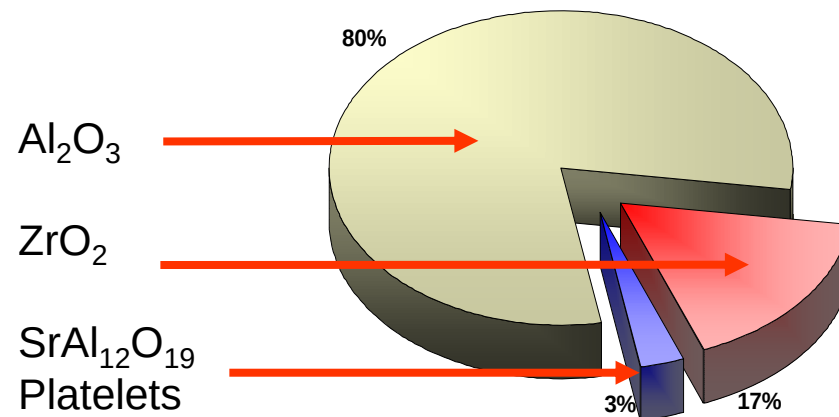
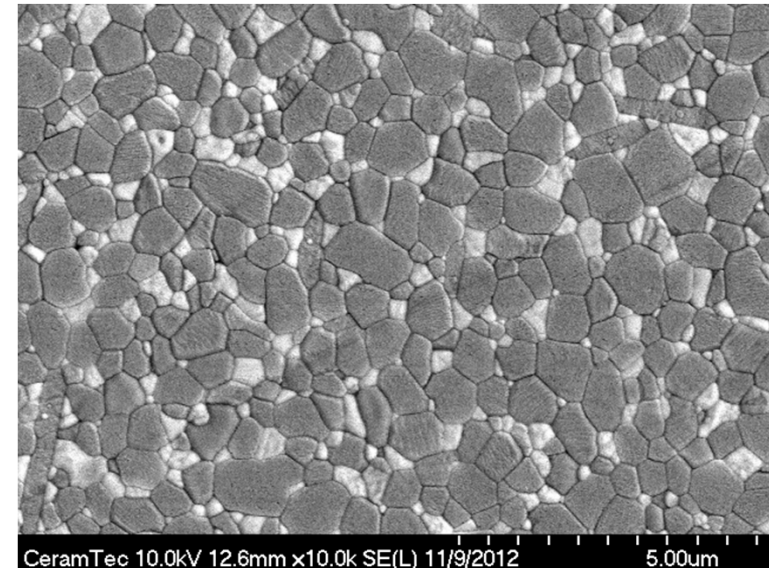
- ▶ Ball heads and cup inserts for hip joint prostheses made of aluminium oxide ceramic (BIOLOX[®]**forte**) and ceramic composite (BIOLOX[®]**delta**)
- ▶ Ceramic components for artificial knee joints made of ceramic composite (BIOLOX[®]**delta**)



Why ceramics in arthroplasty?



		BIOLOX [®] <i>forte</i>	BIOLOX [®] <i>delta</i>
Density	g/cm ³	3,98	4,37
Hardness	GPa	20	19
Grain size	µm	Al: 1,7	Al: 0,6 Zr: 0,3
4-point bending strength	MPa	630	1380
Young's modulus	GPa	407	360
Toughness	MPa√m	3,2	6,5



Motivation for participation in NEWGEN

direct-implantation and
osseointegration of bio-inert ceramic
implants by

- Surface structuring
- Surface modification
- Surface activation

