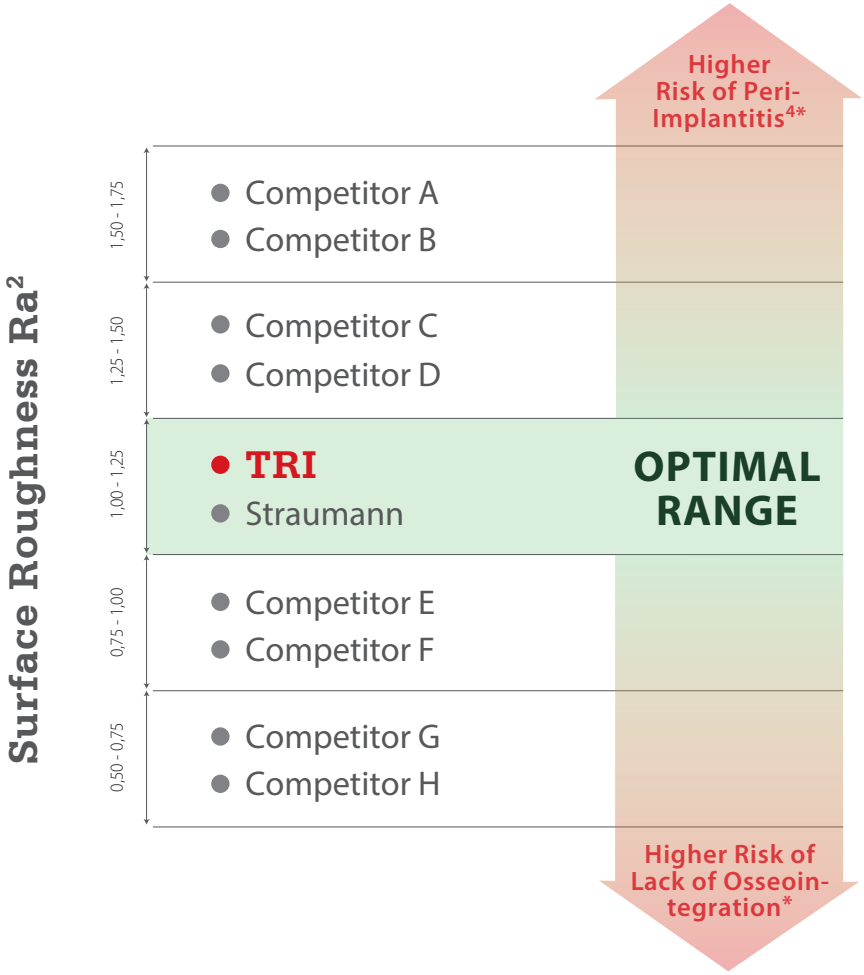
TRI® Scientific Whitepaper

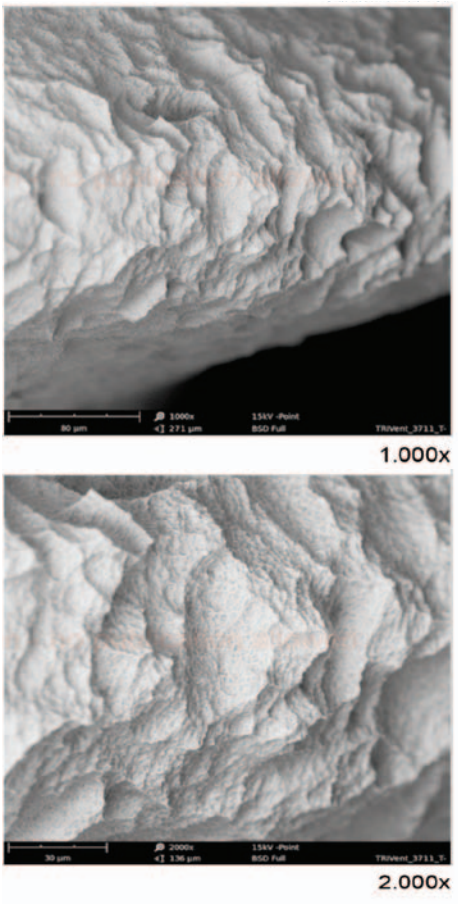
Based on the results from the BDIZ EDI Implant Study 2014/2015

ACHIEVE EXCELLENT RESULTS WITH THE TRI® SBA SURFACE

Medium-rough large-grit sandblasted and acid etched surfaces (such as the TRI® SBA) offer scientifically proven best results.



TRI® SBA SURFACE



Source: BDIZ EDI Implant Study 2014/2015[2]

The recent BDIZ EDI Implant-Study 2014/2015 compares surfaces of 97 dental implant manufacturers. The TRI® SBA medium-rough surface has received the BDIZ EDI certificate that proofs high precision of the implant thread and cleanliness of the implant surface. The TRI® SBA surface is a medium-rough surface.

Several scientific studies suggest that **there is an optimal range of roughness as both with very rough or smooth surfaces problems are noted**[1]. The TRI® SBA surface is manufactured by large grit corumdum blasting (creating a peek-to-peek macro roughness of 20-40µ) and acid etched producing a micro roughness of approximately 2-4µ[2], the ideal prerequisite for a successful osseointegration[3].

[1] Institut Straumann AG: Straumann® SLA Scientific Evidence First Edition (2011)

[2] Implant-Study 2014/2015 Quantitative and qualitative element-analysis of implant-surfaces by SEM/EDX
Author: Dr. Dirk U. Duddeck, Department for Oral Surgery and Implantology, University of Cologne, Germany

[3] Time-dependent morphology and adhesion of osteoblastic cells on titanium model surfaces featuring scale-resolved topography, Zinger, 2003

[4] Twelve-Year Retrospective Follow-Up of Machined Implants in the Posterior Maxilla: Radiographic and Peri-Implant Outcome., Simion, 2015

* General statement based on cited studies. Not related directly to mentioned implant manufacturers.

**A: MIS B: Camlog C: Zimmer D: Astra E: Nobel Biocare F: 3i G: Neoss H: Alpha-Bio

Certificate of Study Result

BDIZ EDI Implant-Study 2014/2015
Quantitative and qualitative element-analysis
of implant-surfaces by SEM/EDX

Name of Manufacturer:	**TRI Dental Implants Int. AG**
Analyzed Product(s):	TRI-Vent - LOT: VP 29624 Exp. Date: 2019-03
Study centre:	Interdisciplinary Policlinic - Dep. For Oral Surgery and Implantology, Dep. for Craniomaxillofacial and Plastic Surgery, University of Cologne
Study carried out by:	dedeMED - Medical Materials Research Institute Berlin
Studied period:	September 2014 – December 2015
Methodology:	Phenom proX Scanning Electron Microscope, EDX Analysis: Detector type: Silicon Drift Detector (SDD) Max. Input count rate: 300,000 cps
Study author(s):	Dr. Dirk U. Duddeck Interdisciplinary Policlinic - Dep. for Oral Surgery and Implantology, Dep. for Craniomaxillofacial and Plastic Surgery, University of Cologne, Head: Prof. Dr. Dr. Joachim E. Zöller, Address: Kerpener Str. 62, D 50937 Köln, Germany
Summary/Conclusions:	The implant TRI-Vent provided by TRI Dental Implants for this analysis showed a high precision of the outer geometry. Significant traces of inorganic or organic residues were not found.

I confirm that the report to the best of my knowledge accurately describes the conduct and results of the study.

Principal investigator:	Dr. Dirk U. Duddeck
City/Date:	Cologne this Jan. 11, 2015

D. Duddeck