

Why "Austrian Tribology Week"?

A number of events related to Tribology will be offered on one venue:

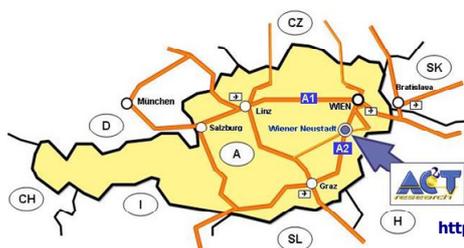
The Austrian Tribology Society is about to celebrate the 40th anniversary of its annual tribology conferences (starting from 1976, since many years known as the "ÖTG-Symposium", which provided sessions in German and English language since about ten years). Moreover, the ÖTG is organiser of the biannual Nanotechnology Conference "Viennano" (originally launched in Vienna in 2005).

The ÖTG is major shareholder of the "Excellence Centre of Tribology" (AC2T research GmbH) founded in 2002 and located in Wiener Neustadt, about 45 km far from Vienna. The Excellence Centre of Tribology is outstandingly embedded into the environment of the "Technologie- und Forschungszentrum Wiener Neustadt" (tfz) and was able (not least due to essential support by the provincial government of Lower Austria) to implement the second funding phase (2015 – 2020) with a total budget of € 54m in the frame of the Austrian COMET programme. The actual work and the research capabilities of the centre substantially contribute to several parts of the Austrian Tribology Week 2015, with a special emphasis to the regular communication with the numerous project partners during the "XTribology Partner Day"

The participants will benefit from the attractive offer to get informed about the various aspects of the major topics of the presentations – from tribological tasks and their solutions (mostly resulting from projects) to the developments of tribology and nanotechnology. The events offer presentations contributed by industrial specialists and scientists. An exhibition devoted to, e.g., specific methods, measurement techniques tools for analyses, is scheduled as well. Moreover, a tour of labs (visiting of AC2T – the Excellence Centre of Tribology, and if possible some more research institutions at the TFZ) will be organised.

How to get to the venue

The TFZ Wiener Neustadt is located in the Vienna Region. Arriving in Vienna Airport you will find several possibilities for public transport facilities including shuttle busses and trains to the Vienna city centre and fast trains from Vienna to Wiener Neustadt.



For a quick information please look up

<http://www.ac2t.at/en/arrival/>



Veranstalter / Organisation Office:

ÖTG – ÖSTERREICHISCHE TRIBOLOGISCHE GESELLSCHAFT

Kontakt/Contact: Martina GANTAR-HOFINGER, Mobil: +43 (0) 676 845162 300
Viktor-Kaplan-Str. 2/C, A 2700 Wiener Neustadt

Bankverbindung / bank account: Vorarlberger Landes- und Hypothekenbank AG
BIC/SWIFT: HYPVAT2B, IBAN: AT145800021363800022

Anmeldungen erbeten bis 20. November 2015 unter
Please register not later than 20 Nov 2015 at

office@oetg.at

Änderungen vorbehalten! – Subject to change without notice!

Wir freuen uns auf Ihre Teilnahme !

We are looking forward to welcoming you at the Tribology Week !

ÖSTERREICHISCHE
TRIBOLOGISCHE
GESELLSCHAFT



Preliminary Programme

Austrian Tribology Week 2015

comprising the events

Seminar

"Important Basic Aspects of Tribology"

6th Vienna International Conference
Nano-Technology – Focus: Tribological Aspects

Viennano '15

XTribology Partner Day

SYMPOSIUM 2015

23 - 25 November 2015

Veranstaltungsort / Venue

**Technologie- und Forschungszentrum (TFZ)
Wiener Neustadt**

Viktor-Kaplan-Str. 2/A, 2700 Wiener Neustadt, A

veranstaltet gemeinsam mit / organised in cooperation with



www.oetg.at

Scope of the Tribology Week

Monday, 23.11.2015	Tuesday, 24.11.2015		Wednesday, 25.11.2015	
	Viennano '15 day 1	XTribology Partner Day	Viennano '15 day 2	ÖTG-Symposium 2015
	Plenary Talks/ Invited Talks and Thematic Sessions (English)	Funding period 2 ² (04/2015 – 03/2020)	Thematic Sessions (English)	Plenary talks and Thematic Sessions (English/ German)
	Lunch Exhibition and Lab Tours		Lunch Exhibition and Lab Tours	
Seminar ¹ „Important Basic Aspects of Tribology“	Thematic Sessions (English)	Funding period 1 ² (04/2010 – 03/2015)	Thematic Sessions (English)	Thematic Sessions (English/ German)
<i>Early check-in/</i>	<i>Social Event / Reception</i>			

¹ Limited number of participants ² Access restricted to COMET XTribology partners according contracts

- Please check whether your registration to the respective events is correct !
- Stellen Sie bitte sicher, das Ihre Anmeldung zu den gewünschten Programm-Modulen erfolgt !

Regulations for optional participation in the conferences

Participants of **Viennano '15** with valid registration (registration fee paid) have free access to the presentations of the **ÖTG Symposium 2015** on 25 Nov. 2015.

Participants of the **ÖTG Symposium 2015** with valid registration (registration fee paid) have as well free access to the presentations of the **Viennano '15** on 25 Nov. 2015.

Regelungen für die Teilnahme an den unterschiedlichen Tagungen

Teilnehmer der **Viennano '15** mit gültiger Registrierung (bezahltem Teilnahmeentgelt) haben freien Zugang zu den Vorträgen des **ÖTG-Symposiums 2015** am 25.11.2015.

Teilnehmer des **ÖTG-Symposiums 2015** mit gültiger Registrierung (bezahltem Teilnahmeentgelt) haben ebenso freien Zugang zu den Vorträgen der **Viennano '15** am 25.11.2015

Monday, 23 Nov 2015 Preconference Seminar / Registration 14:00 – 19:00, Afternoon

14:00 – 17:00

Seminar

TFZ; Building A, 1st floor, Room B
(Internetzugang / Web-Access available !)

16:00 – 19:00

Frühanmeldung zu / Early Registration for

TFZ; Building A, ground floor

▲ **Viennano '15**

▲ **XTribology Partner Day**

16:30 – 18:00

ÖTG-Generalversammlung / ÖTG General Assembly

TFZ; Building C, AC²T seminar room "EG"

Nur für ÖTG-Mitglieder / For ÖTG-members only !

3 Important Basic Aspects of Tribology

Seminarleiter / Lecturer:

Prof. Dr. Wilfried J. BARTZ,

T+S Akademie, Tribologie und Schmierungstechnik (T+Le – Tribology and Lubrication Engineering), Denkendorf (DE); Hon.Prof., TU Wien (AT)

Gesonderte Anmeldung erforderlich / Upon separate registration !

Social Programme on request (tour of the city etc.)

Tuesday, 24 Nov 2015		Room A	Room B	Morning
4	Chair: Bartz W.J.	Viennano '15 – Opening Session	Chair: Pauschitz A.	XTribology Partner Day – Funding Period 2 <i>For XTribology-partners (FP2) only !</i>
	10:00 – 10:20	Welcome Addresses Bartz W. J., <i>Tribology + Lubrication Engineering (DE)</i> ; Franek F., <i>Austrian Tribology Society (AT)</i>	10:30 – 10:35	Welcome and general information
	10:20 – 10:50	Sliding on soft surfaces Spencer N. D., <i>ETH Zurich (CH)</i>	10:35 – 10:45	Agreement partners and signed research contracts (established project consortia & topics); Presentation of the organisation and boards to be established
	10:50 – 11:20	Multiscale, multifunctional surfaces: design and applications Hsu S., <i>George Washington University (USA)</i>	10:45 – 11:00	Constitution of the "Partner Board"; discussion and election of the chairman of the Partner Board
	11:20 – 11:50	Micro and Nano Scale Statistical Properties of Rough Surfaces of Significance in their Friction Borodich F. M., <i>Cardiff University (GB)</i>	11:00 – 11:30	Discussion and election of the two partners' representatives in the "Strategy Board"
	11:50 – 12:20	Value-based micro- and nanotribology Gebeshuber I., <i>Universiti Kebangsaan Malaysia, Bangi (MY)</i>	11:30 – 12:30	Information about ongoing XTribology "Strategic Research Projects"; expected benefit for company partners <ul style="list-style-type: none"> ▲ Lubricants & interface mechanisms affected by lubricant degradation (Area 1) ▲ Enhanced wear protection (Area 2) ▲ Diagnostics of friction effects and tribologically induced surface changes (Area 3) ▲ Multiscale modelling and simulation of tribological phenomena; coupling experimental and numerical simulations (Area 4)
12:20 – 13:30	Lunch & Exhibition	12:30 – 13:00	Open questions	
		13:00 – 14:30	Imbiss & Ausstellung	

Tuesday, 24 Nov 2015		Room A	Room B	Afternoon
5	Chair: Gebeshuber I.	Viennano '15 – Nano-structures	Chair: Badisch E.	XTribology Partner Day – Funding Period 1 <i>For XTribology-partners (FP1) only !</i>
	13:30 – 14:00	Ab-initio tribology Vernes A., <i>AC2T research GmbH – Excellence Centre of Tribology (AT)</i>	14:20 – 14:45	Welcome and Overview Badisch E., <i>AC2T research GmbH - Excellence Centre of Tribology (AT)</i>
	14:00 – 14:30	Nanotribology: Nano-Quantum nature of dissipative structures of friction Fedorov S., <i>Kaliningrad University (RU)</i>	14:45 – 15:15	Scientific Presentations
	14:30 – 15:00	New Method for Mechanical Studies of Nanostructures Rymuza Z., <i>Warsaw University of Technology (PL)</i>	15:15 – 15:45	Area 1: Lubricants & Interface Mechanisms Doerr N., Besser C., <i>AC2T research GmbH (AT)</i>
	15:00 – 15:10	Discussion		Area 2: Wear Processes & Protection Rodríguez Ripoll M., Tomala A., <i>AC2T research GmbH (AT)</i>
15:10 – 15:40	Break & Exhibition	15:45 – 16:00	Getränke & Ausstellung	

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Chair:	Viennano '15 – Coatings / Nanoparticles	Chair:	XTribology Partner Day – Funding Period 1
Franek F.		Badisch E.	
15:40 – 16:10	Frontiers of Multi-functional Nanocomposite Coatings for Advanced Transportation Applications Erdemir A., Argonne National Laboratory (USA)		<i>For XTribology-partners (FP1) only !</i>
16:10 – 16:40	Creation of Nano-Interface for Super-low Friction – Active Control of Running-in Adachi K., Tohoku University (JP)	16:00 – 16:30	Scientific Presentations
16:40 – 17:10	Mechanical and Tribological Properties of Arc Evaporated Ti_{1-x}Al_xN/Mo_{1-x-y}Si_xB_y multilayer coatings Riedl H., TU Wien (AT)	16:30 – 17:00	Area 3: Friction Surface Phenomena & Tribodiagnostic Lenauer C., Jech M., AC2T research GmbH (AT)
17:10 – 17:40	Interaction between MoS₂-Nanotubes and ZDDP Tribofilms Tomala F., AC2T research GmbH – Excellence Centre of Tribology (AT)	17:00 – 17:20	Area 4: Computational & Experimental Simulation Vernes A, Eder S., AC2T research GmbH (AT)
			Open Questions - Discussion

17:45 **Transfer to Wiener Neustadt City Centre**
18:00 – 20:00 **Evening Reception by the Mayor – Wiener Neustadt City Hall**

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<p>AC2T research GmbH, Wiener Neustadt, AT www.ac2t.at</p> <p>Alicona Imaging GmbH, Raaba/Graz, AT www.alicon.at</p> <p>Anglo-Euro Scientific, Nottingham, UK www.angloeuro.co.uk</p> <p>Anton Paar GmbH, Graz, AT www.anton-paar.com</p> <p>Klüber Lubrication Austria Ges.m.b.H. Salzburg, AT www.klueber.com/at</p>	    	<p>NT-MDT, Castleroy, Limerick, www.ntmdt.eu</p> <p>Technopol Wiener Neustadt, Wiener Neustadt, AT www.technopol-wienerneustadt.at</p> <p>Tribotron AG, St. Gallen, CH www.tribotron.com</p> <p>Phoenix Tribology Ltd, Kingsclere, UK www.phoenix-tribology.com</p>	   
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Chair: Pauschitz A.	Viennano '15 – Tribometry / Lubrication	Chair: Franek F.	ÖTG-Symposium – Plenar
09:20 – 09:50	Nanomechanical Investigations of Graphene by Friction Force Microscopy Meyer E., <i>University of Basel (CH)</i>	09:00 – 09:20	Begrüßung – Ehrungen Franek F., <i>Österreichische Tribologische Gesellschaft; AC2T research GmbH (A)</i>
09:50 – 10:20	Bridging Macro and nano by advanced surface analytical methods Brenner J., <i>AC2T research GmbH – Excellence Centre of Tribology (AT)</i>	09:20 – 09:50	Tribologienormung - Nutzen für Praxis und Theorie? Köttritsch H., <i>etc – engineering training consulting (AT)</i>
10:20 – 10:50	Triboreactivity of halogen-free ionic liquids in contact with a steel and titanium surface Igartua A., <i>IK4 Tekniker (ES)</i>	09:50 – 10:20	New Generation of Low-viscosity Fuel Efficient Lubricants: Key Technical Issues Hsu S., <i>George Washington University (USA)</i>
10:50 – 11:20	Generation of low Friction Tribofilms using Functionalized Surfaces and Green Additives Rodriguez Ripoll M., <i>AC2T research GmbH – Excellence Centre of Tribology (AT)</i>	10:20 – 10:50	Elektro-Mobilität – Aber woher kommt der Strom? Bartz W.J., <i>T+S-Akademie (DE)</i>
11:20 – 11:40	Break & Exhibition	11:05 – 11:30	Getränke & Ausstellung

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Chair: Badisch E.	Viennano '15 – Lubrication / (Tribo-)Corrosion	Chair: Polak R.	ÖTG-Symposium – Session Deutsch	Chair: Doerr N.	ÖTG-Symposium – Session English
11:40 – 12:05	Ionic Liquids and Ionic Liquid-Mediated Dispersions of Nanomaterials as High Performance Additives for Lubricants Ahrens M., <i>Iolitic Ionic Liquids Technologies GmbH (DE)</i>	11:20 – 11:40	Einfluss des Aufbaus von Nitrierschichten für ausgewählte tribologische Anwendungen Orth P., <i>Lingenhölle Technologie GmbH (AT)</i>	11:40 – 12:00	Lubricated non-conformal Contact Model used in Multi-Body Simulation of a Cam Follower Contact Meuter M., <i>AVL Deutschland GmbH (DE)</i>
12:05 – 12:30	In-situ generation of WS₂ low friction tribofilms Totolín V., <i>AC2T research GmbH (AT)</i>	11:40 – 12:00	Die Wirkung von WC-Zusätzen auf die tribologischen Eigenschaften von thermisch gespritzten Cr₃C₂-NiCr-Hartmetallschichten Berger L.-M., <i>Fraunhofer-Institut für Keramische Technologien und Systeme – IKTS (DE)</i>	12:00 – 12:20	Shell Like Lubricant Film Element for TEHD Contact Modelling and its Implementation to a Commercial FEM Software Szavai S., <i>Bay Zoltan Nonprofit Ltd. for Applied Research (HU)</i>
12:30 – 12:55	Tribocorrosion of Ni-P Nanocomposites Georgiou E., <i>Falex Tribology (BE)</i>	12:00 – 12:20	Anbackungsverminderung beim Förderguttransport in der Stahlindustrie Molnar W., <i>AC2T research GmbH (AT)</i>	12:20 – 13:20	Selection Processes for Bearing Greases Exposed to High Temperatures Schandl M., <i>AC2T research GmbH – Excellence Centre of Tribology (AT)</i>
12:55 – 13:20	Multiscale Corrosion Inhibitor Modelling Using Density-functional Theory and Molecular Dynamics Bedolla P. O., <i>AC2T research GmbH - Excellence Centre of Tribology (AT)</i>	12:20 – 13:20	Laborbesichtigung	13:20 – 14:20	Imbiss & Ausstellung
13:20 – 14:20	Lunch & Exhibition	13:20 – 14:20	Imbiss & Ausstellung		



The Austrian Center of Competence for Tribology founded as **AC²T research GmbH** in 2002 on the occasion of the Austrian Competence Centre Initiative (*Kplus*) – is one of the largest privately organised institutions solely devoted to tribology in research and industrial R&D services. More than 140 employees and a number of consultants (mainly affiliated with scientific partners) are working in core fields of tribology, as shown in the graph on the righthand side.



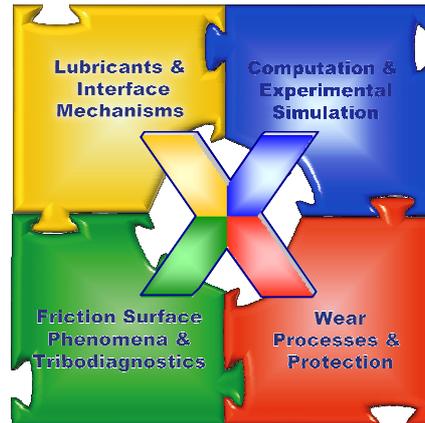
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Staff members with expertise in the “mother disciplines” of tribology are available on site in a well balanced number, thus interdisciplinarity in theoretical and experimental work is highly realised. Outstanding equipment makes the Centre attractive for industrial and as well scientific partners in Austria and a number of foreign countries.

The AC²T-team could successfully place a sustainable project named “**X**Tribology” within the frame of the actual Austrian COMET initiative (COMET – Competence Centers of Excellent Technologies). 54 millions EUR are the overall budget frame for this umbrella project for 5 years (2015 – 2020).



managed by the Austrian Research Promotion Agency (FFG)



Aerospace & Advanced

Composites GmbH has been founded in October 2010 as a private company that provides research, development and engineering capabilities in the fields of materials, technology and testing for aerospace and as well for terrestrial applications.



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Key areas of activities in testing/research and development of materials and components are:

- Polymer Composites
- Inorganic Composites
- Material & Components Test House

The excellent qualification and experience of the employees with backgrounds in physics, chemistry, material science, mechanics and electronics, ensures an interdisciplinary approach for working on research and development projects for our customers.



The **OFI Technologie & Innovation GmbH** has been the competent service partner for Austrian and European small, medium and large-scale companies. **ofi** supports innovation through research and development, testing and analysis quality assurance and certification.



In the past years, newly added research capacity has established **ofi** as one of the leading creative powerhouses in Austria, providing answers to practice-oriented questions while collaborating closely with the clients, business partners and with universities. The services include idea engineering, acquisition of public funds and the product market entry. The results are new or enhanced products, processes and services with immediate market potential.

One specific competence field – implemented and provided by about 45 persons at the location tfz – concerns functional surfaces and their alteration due to environmental impact which may be caused by physical, chemical, mechanical and biological exposure.

Viennano '15		ÖTG-Symposium – Session Deutsch Room A		ÖTG-Symposium – Session English Room C	
		<i>Chair: Badisch E.</i>		<i>Chair: Graff A.</i>	
12	14:20 – 15:30 Tour of Labs	14:20 – 14:40	Generalized Bearing Life Model – A New Approach for Predicting Rolling Bearing Performance <i>Preisinger G., SKF Österreich AG (AT)</i>	Novel Test Methodology to Investigate Influence of Humidity on the Break-away Friction of Steel-Polymer Tribococontacts <i>Pondicherry K., Anton Paar GmbH (AT)</i>	
		14:40 – 15:00	Physikalische Simulation eines luftdruck-reibungsbasierten Dämpfungssystems <i>Ausserer F., V-Research GmbH (AT)</i>	Impact of oil and additives on the tribological performance of carbon based hard coatings <i>Paulitsch J., Oerlikon Balzers Coating Austria GmbH (AT)</i>	
		15:00 – 15:20	Tribologie und Verschleiß in einer Plastifiziereinheit <i>Blutmager A., Wittmann Battenfeld (AT)</i>	Tribological behaviour of cathodic arc evaporated Ti-Al-N, Ti-Al-Zr-N and Ti-Al-Mo-N hard coatings <i>Glatz S. A., TU Wien (AT)</i>	
		15:20 – 15:40	Auswahl eines Korrosionsinhibitors für die Erdölförderung <i>Zehethofer G., OMV Exploration & Production GmbH (AT)</i>	Effect of the contact geometry on abrasion resistance of thermal spray coated samples <i>Pejakovic V., AC2T research GmbH (AT)</i>	
Please select your group !					

15:30 – 15:50 Break		15:40 – 16:00 Pause	
13	<i>Chair: Vernes A.</i> Viennano '15 Room B	<i>Chair: Franek F.</i> ÖTG-Symposium – Session Deutsch Room A	
	15:50 – 16:15	Smooth particle simulation of scratching <i>Leroch S., AC2T research GmbH – Excellence Centre of Tribology (AT)</i>	
	16:15 – 16:40	16:00 – 16:20	
	16:40 – 17:05	16:20 – 16:40	
	17:05 – 17:15	17:00 – 17:10	
16:15 – 16:40	Tribological performance of nanostructured Ge coatings deposited by LPCVD on steel substrates <i>Krabac L., AC2T research GmbH – Excellence Centre of Tribology (AT)</i>	Anti-Fingerprint Surfaces - Properties, Characterization and Fabrication Strategies <i>Palkovits R., FH Wiener Neustadt für Wirtschaft und Technik GmbH (AT)</i>	
16:40 – 17:05	Experimental investigation of bearing bush wear and friction at distinct points on the Stribeck curve <i>Lenauer C., AC2T research GmbH – Excellence Centre of Tribology (AT)</i>	Hard Chrome Plated Steel XC45 in Dry Friction at 80 °C Temperature Study <i>Dobrescu R., University of Pitesti (RO)</i>	
17:05 – 17:15	Farewell	Einfluss ausgewählter Schmierstoffzusätze auf ΔT und Δp mit Basisöl SN-150 <i>Mikolajczyk J., I.T.I. Poland (PL)</i>	
17:15	End of Conference	17:20	Ende der Veranstaltung

Conference Fees (in EURO, per person)

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Viennano '15	Regular
Participant	590,00
Participant Member ¹⁾	540,00
Speaker / Poster Presentation	490,00
Speaker / Poster Presentation Member ¹⁾	440,00
Student ²⁾	295,00
Student Member ^{1), 2)}	270,00
Social Event per Accompanying Person (no attendance at the conference)	60,00
Seminar "Important Basic Aspects of Tribology" (23 Nov 2015, 14:00 – 17:00; additional fee, per person)	320,00

The participation fee includes proceedings (ISBN registered brochure, electronic access to the files) containing the respective conference papers, coffee, drinks, short lunch, as well as guided tour of the labs.

ÖTG-Symposium 2015	Regular
Participant	280,00
Participant Member ¹⁾	195,00
Reduced Speakers Fee for persons presenting scientific-technical papers/posters (valid for max. one person per each paper)	100,00
Speakers Fee for "commercial presentations" (for one person per paper/presentation)	420,00
Student ²⁾	0,00
Social Event per Accompanying Person (no attendance at the conference)	60,00

- 1) Member Fees apply to members of the Austrian Tribology Society and persons affiliated with the co-organising institutions. Please specify clearly the name of the respective institution on the registration sheet. No participation fee for persons affiliated with OeTG members (according to the OeTG categories of company-members!).
- 2) No participation fee for students (participation depending on available places; without proceedings). Proof of student status must be sent to office@oetg.at or to viennano2015@oetg.at, respectively, in order to qualify for student fee..

Co-organisers, Sponsoring and Supporting Institutions

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Austrian Ministry for Transport, Innovation and Technology



Stadt Wiener Neustadt



Technopol Wiener Neustadt



Europäische Union Investitionen in Wachstum & Beschäftigung. Österreich.



AC²T research GmbH – Exzellenzzentrum für Tribologie



Aerospace & Advanced Composites GmbH



OFI Technologie & Innovation GmbH

Lay-out, Druckvorbereitung; Saaltechnik / Print Preparation; Conference Equipment;
EDV-Rettung – Jasmin Lind
A 8191 Gratkorn (AT)



Druckerei / Printing:
Ferdinand Berger & Söhne GmbH
A 3580 Horn (AT)

