



## RTT AG Company Profile

### **3D Revolutionises Product Development, Design, Sales and Marketing**

When businesses such as **Audi, Adidas and Airbus** want to visualise and animate their products in 3D, they turn to the technology and services of Realtime Technology AG (RTT AG). **Virtual prototyping** is increasingly replacing the use of expensive physical prototypes in industrial development processes and product design. This saves companies time as well as millions of euros. The virtual simulation of different product variations provides the basis for important design decisions; this allows the time, human resources and costs of product design and development to be reduced considerably. The same applies to the areas of **sales and marketing**. New methods of communication are demanded to positively affect the purchasing decisions of consumers, and the adoption of these new methods is an increasingly important competitive factor for businesses. This can involve huge cost increases due to continually expanding and changing product portfolios. These effects can be mitigated by using 3D visualisation solutions as irreplaceable product presentation tools for sales and marketing purposes. Computer-generated images and animations provide new opportunities for stunning product portrayals while at the same time reducing communication budgets dramatically. Configurators are a particularly powerful example of the opportunities offered by **virtual product communication**: at the touch of a button, consumers can create their own dream product and then view the virtual and photo realistic 3D model in real time.

### **“Virtual Reality” Solutions – a Rapidly Growing Market with a Bright Future**

The world of 3D visualisation is characterised by **huge dynamism**. Due to the extensive integration of the new technology into additional market segments, further areas of application and fields of business, high-end visualisation solutions have established themselves a niche that is distinct from the traditional CAD market. This is resulting in an increasing demarcation of market sectors. In recent years the segment of “Digital Content Creation” (DCC) grew by 16 percent - rising from 2.6 billion to over 3 billion US dollars by 2006. The analysts Jon Peddie forecast growth to 4.3 billion euros by 2012.

The market is characterised by strong globalisation in the application sectors, high growth potential in existing and latent markets, and high levels of competition in a variety of forms specific to industrial sector and market segment. The following target industries have arisen for RTT: **Automotive, Aerospace, Consumer Goods, Furniture, Architecture, Advertising and Media.**

### **Strategy for Success**

RTT AG has established itself as a **leading light in visualisation** and supports its customers with an **integrated process-oriented approach**. This ranges from product development and design phases all the way through to product marketing. The company pursues a strategic combination of software and application development: **RTT Software and RTT Services**. This includes client and process consultation, individual project work, software implementation, design support, training, and "Content Creation" and professional presentations for integrated product marketing at the point-of-sale, online, and at events and exhibitions.

**RTT provides insight.** Its use of photo realistic visualisation is the best means of illustrating relationships and connections along the whole value adding chain. Everyone involved in the process can view, analyse and edit the product in realtime and with the highest display quality.

**RTT optimises processes.** Virtual development environments enable significantly quicker and more cost-effective product development and marketing processes. Realtime rendering allows immediate viewing and assessment of changes, as well as the ability to analyse different model variations side-by-side on the same screen. This ensures that the product comes to market faster and is in the hands of the customer without delay.

**RTT facilitates communication and decision making.** Cross-department solutions based on an integrated and centralised visual data pool makes it considerably easier for employees to obtain information, communicate and make decisions.

## **Growth and Internationalisation**

RTT AG is an owner-operated business managed by its two founding directors: Ludwig A. Fuchs and Christoph Karrasch. When incorporated in March 1999, the company had 6 employees. Today there are 370 staff at 13 locations worldwide. The company headquarters are in Munich, Germany. RTT has local and international operations in Stuttgart, Hamburg, Paris, Milan and Brussels. In addition, RTT has two subsidiaries – in the USA and Asia: RTT USA Inc. with offices in Los Angeles and Detroit, and RTT Asia-Pacific Inc. with offices in Seoul, Shanghai, Tokyo, Melbourne and Singapore. Since its incorporation, RTT's average annual growth has been **50 percent**. The annual turnover in 2008 was 29 million euros. RTT shares (WKN 701220) are traded on the Open-Market in Frankfurt, on Xetra, and via Freiverkehr (OTC) Stuttgart and Freiverkehr (OTC) Berlin-Bremen.

## **RTT – Challenging Reality**

The company motto "**Challenging Reality**" is reflected throughout the business: RTT is a young, creative and dynamic team with a flat hierarchy. RTT is a technological, innovative and quality leader in the high-end realtime visualisation market. The company is also an attractive employer for highly skilled and dynamic employees, and is growing rapidly.

## **Famous Clients and Strategic Partners**

The RTT AG client portfolio includes world-famous companies such as Adidas, Porsche, BASF, EADS, Lamborghini and Sony Ericsson. In addition to its regional operations, RTT's international network of

resellers and partners enables close consultation with clients. RTT also cooperates with numerous higher education and research institutes worldwide.

### **Business Success Honoured**

Numerous awards attest to RTT's commercial success: in 2007 the Munich-based visualisation specialist received the "Deloitte Technology Fast 500 EMEA Award" for the second year running, as well as the European growth prize "Europe's 500". In addition, RTT AG was honoured in April 2007 with the prestigious American innovation prize "Automotive News Premier Automotive Suppliers' Contribution to Excellence (PACE) Award" for the 3D visualisation software suite RTT DeltaGen.

### **RTT's Business Areas**

With its software and service solutions, RTT provides end-to-end support to its customers in product design, product design and product marketing. The company is divided into two business units:

- **RTT Virtual Prototyping:** RTT software solutions and visualisation services are utilised for 3D realtime visualisation of product design in sectors with high CAD/CAS penetration. In particular, industrial clients benefit from the rapid and cost-efficient execution of optimal product development and design processes in global operating environments. This is achieved by using photo realistic representations of 3D models, and the possibility to interact with models and efficiently integrate them into data workflows.
- **RTT Virtual Marketing:** RTT's technology and services enable the efficient generation of realistic image and film material based on CAD/CAS data. This considerably reduces the need for physical prototypes or finished products for image and film productions. Images, films and 3D configuration systems (realtime configurators integrated into dealer networks, web configurators, etc.) can be used via traditional media channels as well as in online environments.

## Chart of the RTT AG Business Model:



Business Model; Client; RTT Software; realtime photo-realistic 3D visualisation; asset management of design data; RTT Services; Content Creation; CGI, Configurator Systems etc.; Consulting; Process consultation, optimisation etc.; Visualisation solutions with the highest quality for virtual prototyping and virtual marketing

### RTT DeltaGen

**RTT DeltaGen** is RTT's core software product. It is deployed worldwide by users for the preparation of complex CAD/CAS data and 3D realtime visualisation with high-end quality. This allows traditional product development cycles to be considerably simplified and speeded up.

RTT DeltaGen enables the establishment of rapid, efficient and highly flexible workflows for product development, design, construction, marketing and sales. Images, films and animations generated by RTT DeltaGen captivate users and audiences with realistic high-end visual quality – all in real time.

RTT software is continually developed and enhanced with new features in close consultation with customers, colleges and research institutes. **RTT CAD-Converter's** enable all common CAD formats to be transformed to create photo realistic visualisations in RTT DeltaGen.

### Applications:

- **RTT DeltaView plus** is a low-price viewer for scenes generated in RTT DeltaGen – no editing functionality is available. Animations can be played and variations turned on and off. In addition, there are useful tools for visual effects and the recognition of forms.
- **RTT DeltaView free** is a licence free version of the viewer. It allows "model viewing" free of charge and without loss of quality. In contrast to the "Plus Version" though, there is no control available via a "Presenter GUI". After registration, RTT DeltaView free is available for

download at: [http://www2.rtt.ag/deltaviewfree/download\\_en.php](http://www2.rtt.ag/deltaviewfree/download_en.php). A free demonstration model is also available with the viewer.

- **RTT Powerwall** includes RTT DeltaGen and RTT DeltaView plus, and allows use of these applications on a PC cluster without resolution restrictions and with mono and stereo support.

**A completely computer generated model of the Lamborghini Murcièlago–  
realtime prototypes with outstanding visual quality**





### RTT DeltaGen Modules

Except in the case of RTT DeltaView free, users can extend the functionality of RTT DeltaGen with a range of optional modules:

- **RTT RealTrace** enables the rapid and physically accurate display of optical effects in real time. This functionality allows rays of light and reflections to be simulated with precise photo-realistic quality under live conditions.
- **RTT RealLight** is a tool for the creation of realistic light and shadow effects in realtime.
- **RTT Automizer** uses templates for the automated preparation of scenes.
- **RTT Presenter** is a tool for the rapid preparation of presentations allowing, for example, placing and comparison of multiple 3D models in a realistic environment.
- **RTT Analyzer** allows geometric analysis and measurement of 3D models, as well as the creation of cross-sections.
- **RTT Immersive** uses tracking functionality to control an HMD (*head-mounted display*). With RTT Powerwall, a PC cluster with multiple output channels for a Powerwall or a CAVE (a room for projection of a three dimensional virtual reality world) can be operated with the help of such a tracking system.
- **RTT Conferencing** is a module that allows meetings involving the viewing of 3D models to be held across multiple locations for the purposes of a design review.

## **RTT PictureBook**

In order to give users control over every processing step, RTT provides the **asset management system RTT PictureBook**. All data necessary for a design process is viewable, and the user retains an overview of the status of and progress in the design development process. They can access individual design elements and states at any time.

RTT PictureBook is a server-based solution catering for the management of design relevant data. The RTT PictureBook materials and object Libraries simplify the structured administration and processing of scenes and models. The user has the opportunity to add comments to models and to discuss them by means of **RTT Conferencing**. The designer can reproduce and monitor all individual development steps. An easy-to-use web-interface generates a rapid overview of all projects. Since the release of version 3.0, RTT PictureBook can be directly connected to RTT DeltaGen. The user has immediate access to the objects and materials in 3D realtime scenes. **RTT PictureBook Mobile** allows transfer of certain contents of the RTT portal server to a laptop computer so that work can continue irrespective of location. Any edited content that is then checked back in to the server is automatically synchronised with the original data by the **RTT PictureBook Server**.

## **RTT Services: Meeting Each Customer's Needs**

Every sector has its own individual processes, requirements and framework conditions. RTT therefore develops sector-specific tools and offers its clients a range of services and individual solutions that support and assess every process phase involving a need for action or intervention. From process management consulting and stretching all the way to the generation of creative content. RTT also helps companies to optimally coordinate and configure software and services. On the basis of CAD data, RTT executes complete or sub-projects tailored to the customer. If required RTT will develop new modules and services for company-specific requirements. In conjunction with these services, RTT also provides training for customer employees and supplies comprehensive service and support to ensure the customer can work independently with their new solution.

Recent client projects include the creation of films for the Audi A8 web special, digital image generation for Toyota Europe company brochures, and the "BMW Design Configurator" in the permanent "BMW Welt" exhibition that opened in October 2007 in Munich. The **BMW Design Configurator** allows realtime configuration of 17 BMW models – this involves approximately 300,000 possible configurations. The configurator presents visitors to BMW Welt with their personalised dream car without the need to wait for graphics to render. Design characteristics such as finish, rims and interior furnishings can be selected. The configured model can then be viewed from all angles. The outstanding quality and strength of the BMW design configurator is provided by the RTT Powerwall, the cluster version of RTT DeltaGen and RTT DeltaView. The complete configuration system allows playback of PowerPoint presentations and DVDs with sound, thus also serving as a platform for presentations.

The BMW Design Configurator at "BMW Welt" in Munich



A virtual prototype of the Audi R8 Sports Car



## Key Figures – Data - Facts

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<b>Supervisory Board Chairman:</b>	Prof. Ulrich Göhner
<b>Head Office:</b>	Munich, Germany
<b>Subsidiaries:</b>	RTT USA Inc. (Pasadena, California, USA) RTT Asia-Pacific Inc. (Seoul, South Korea)
<b>Local Representation:</b>	Detroit, Tokyo, Paris, Brussels, Milan, Melbourne, Shanghai, Singapore, Stuttgart and Hamburg
<b>Partner Network:</b>	Beijing Vision Strategy Technology, VR China e-autobusiness, Australia & New Zealand EVAE, VR China infoTRON, Turkey & United Arab Emirates absolut, Brazil NANCO DATA, Scandinavia Peschke Design, Austria Silicon Studio, South Korea TJC, Japan Helix, Japan Photom, Japan
<b>Employees:</b>	370
<b>Customers:</b>	Adidas, Airbus, Applus Airon Technic, Audi, BASF, Bertrandt, BMW, Carbon Motors Corporation, Chrysler, Dai Nippon Printing (DNP), DaimlerChrysler, Dodge, EADS, EDAG, Fiat, Ford, General Motors, Holden, Honda, ICON Aircraft, Inovo Design, Italdesign Giugiaro, Iveco, Jeep, Lamborghini, Lexus, Magna Steyr, Maserati, Maybach, Mazda, Mercedes, Miele, Mitsubishi Electric, Opel, PATAC, Porsche, PSA, Rolls-Royce, Samsung, Scania, Schüco, Serco, Skoda, Sony Ericsson, Steelcase, Suzuki, TERREX, Tesco, Thyssen Krupp, Toppan Printing, Toyota, Uchida Yoko, Volkswagen and Volvo
<b>Awards:</b>	Automotive News Premier Automotive Suppliers' Contribution to Excellence (PACE) Award (April 2007) Deloitte Fast 500 Award EMEA (October 2006) Deloitte Fast 50 Award Deutschland (October 2006/2007) Europe's 500 Award (October 2006)

## Key Business Figures 2007

Turnover	€29.791m +39 % (compared to previous year)
EBITDA	€3.092m +9 % (compared to previous year)
EBT	€1.302m
Subscribed Capital	€3,921,750
ISIN DE	DE0007012205
WKN	701220
Exchanges Traded	Open-Market Frankfurt, Xetra, Freiverkehr (OTC) Stuttgart, Freiverkehr (OTC) Berlin-Bremen

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