

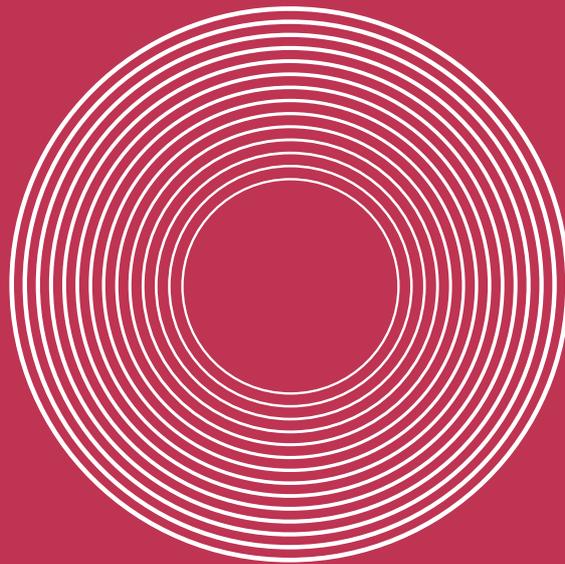


OESTERREICHISCHE NATIONALBANK

Stability and Security.

# INTELLECTUAL CAPITAL REPORT 2004

Knowledge for Stability



EUROSYSTEM





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Knowledge for Stability

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# Foreword and Introduction

*The true value of an enterprise cannot be fully captured by traditional financial statements. Companies seeking to succeed economically have to make tangible their values and visions, their human resources and their structures. This is also true for the Oesterreichische Nationalbank (OeNB), which published its first Intellectual Capital Report in 2004. The OeNB's experience with this reporting tool has been very positive in the first two years of its publication.*

*In most cases fundamental potential for strategic success emanates from an enterprise's human, structural, relational and innovation capital, which is usually not included in traditional annual reports. While these types of capital are decisive for future corporate success, they are not reflected in conventional balance sheets.*

*Human capital is the sum total of the entire staff's intellectual assets and skills that are potentially available, but often not fully utilized. To be successful, enterprises have to mobilize these dormant resources and promote creativity at the workplace. In order to enhance human capital, a company needs structural capital to organize the exchange of knowledge and experience among employees.*

*As structural capital is kept within the enterprise irrespective of staff fluctuations, it is more stable than human capital, which is rather volatile. Still, corporate structures are worthless without qualified employees. Staff members have to enter into structured relations with partners and customers to ensure value creation. This relational capital comprises all relations to external contacts that are critical to success. Only if an enterprise can accommodate the interests of all its partners will it be able to achieve sustainable success.*

*Innovation capital covers all those resources which are strongly future oriented. After all, state-of-the-art working methods and research activities are further key elements on the way to long-term economic success. In this context, the OeNB's Intellectual Capital Report is an ideal "fitness check" and a fundamental stocktaking exercise. It complements the OeNB's balance sheet and Annual Report by analyzing intangible assets that are not captured by classic business analyses.*

*Klaus Liebscher, Governor*

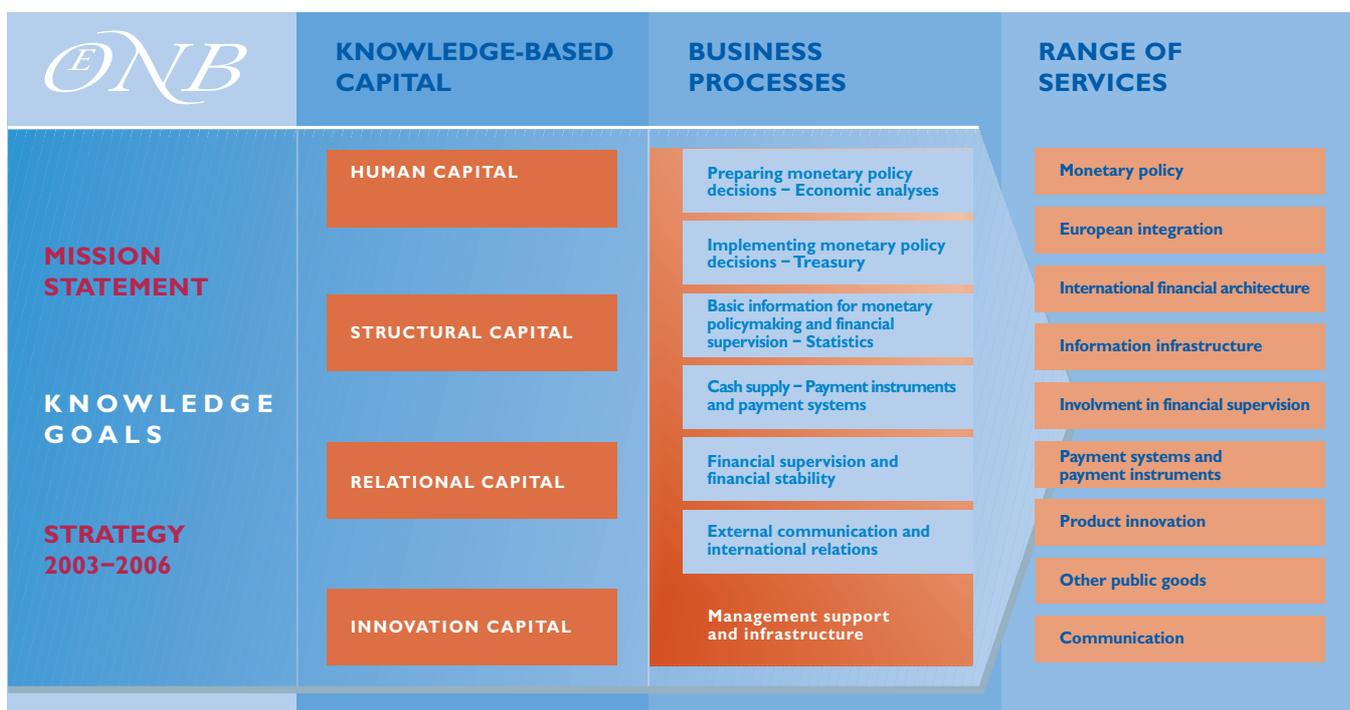




# 1 Intellectual Capital Report Model and Knowledge Goals

## 1.1 Intellectual Capital Report Model

The OeNB's Intellectual Capital Report makes transparent both the stock of knowledge-based capital within the OeNB and internal and external knowledge flows. It thus helps document the OeNB's intangible assets.



The OeNB's Intellectual Capital Report model, which was presented in detail in the Intellectual Capital Report of 2003, also serves as the basis for the present report. The process-oriented model highlights the close relation between the OeNB's intellectual capital, referred to as "knowledge-based capital," its business processes and its range of services. The stock and flow of intellectual assets are illustrated not only by verbal descriptions and charts, but also by indicators which make it possible to quantify and assess changes over time.

*"Knowledge – the stuff our future is made of."*

Peter Achleitner  
Director of the OeNB's Future Unit

## Knowledge-Based Capital

Knowledge-based capital is subdivided as follows:

1. **Human capital:** comprises staff expertise and skills applied to business processes;
2. **Structural capital:** refers to organizational and communication structures and to the technical infrastructure;
3. **Relational capital:** captures the OeNB's cooperation and networking with national and international customers and partners as well as its public relations work and publications; and
4. **Innovation capital:** includes the resources that are strongly future oriented and focus on research activities.

In carrying out its business processes and rendering its services, the OeNB makes use of these components to various degrees and in various combinations. Building on these four types of capital, the OeNB's employees create value at all corporate levels.

## Business Processes

Knowledge increases when applied and passed on. In this process, it can be both input and output at the same time. The OeNB's business processes include the following core and support processes: preparing and implementing monetary policy decisions (economic analysis, treasury), providing the basic information for monetary policymaking and financial supervision (statistics), supplying the economy with cash (payment instruments and payment systems), participating in financial supervision, ensuring financial stability as well as engaging in external communication and international relations.

These various processes are interlinked in many ways. Assessing financial stability in Austria, for example, requires input from banking statistics; monetary statistics, on the other hand, supply the necessary data for preparing monetary policy decisions; macroeconomic analyses contribute to assessing financial stability, with the OeNB's Financial Stability Report providing the interested public with important information on the risk profile of the Austrian financial system.





## Range of Services

The output of all business processes is ultimately illustrated by the services the OeNB provides in line with its public mandate.

The range of services included in the Intellectual Capital Report model comprises the following areas:

- **Monetary policy:** effective participation in preparing and implementing the monetary policy decisions of the Eurosystem;
- **European integration:** active contribution to European integration and support for the new Member States and EU accession and candidate countries;
- **International financial architecture:** active contribution to the further development of the international financial architecture;
- **Information infrastructure:** also includes statistics;
- **Involvement in financial supervision:** serves to ensure financial stability;
- **Payment instruments and payment systems:** ensuring the secure and smooth operation of payment systems for both cash and cashless payments;
- **Product innovation:** further development of products in cooperation with customers and partners;
- **Other public goods:** provision of services in Austria's economic interest; and
- **Communication:** a comprehensive and active information policy combined with well-targeted knowledge transfer.

The OeNB's Annual Report provides a comprehensive overview of the OeNB's range of services from a result-oriented perspective. By contrast, the Intellectual Capital Report focuses on the processes involved. Accordingly, it aims at presenting the components of knowledge-based capital and the utilization of these components in the OeNB's business processes in a transparent fashion. The OeNB's business processes eventually result in a range of services tailored to customer needs.



## 1.2 Knowledge Goals

The OeNB's knowledge goals, which have been derived from the OeNB's strategic objectives, set the framework for using the OeNB's knowledge-based capital. They form a logical entity with the OeNB's strategy and mission statement.

The knowledge goals help control the OeNB's knowledge-based capital, which is analyzed and interpreted using a selection of indicators. These indicators make it possible to measure the accomplishment of the knowledge goals. As the former may refer to several objectives at the same time, the tables in the OeNB's Intellectual Capital Report show which knowledge goals the indicators relate to.

### The OeNB's Knowledge Goals

#### **Competence** through specialized knowledge

The OeNB is an active player in the Eurosystem and has established itself as a widely recognized center of competence. In this context, it is essential to identify sustainable, future-oriented key topics and to accumulate and further develop relevant, high-quality specialist knowledge.

To implement this strategy, OeNB staff in all business areas must have highly specialized knowledge, particularly as regards key topics, and must show top-level ability to perform well, a distinctive willingness to learn and high flexibility. Flexible personnel management instruments and well-targeted training and education measures are key factors in promoting and meeting this requirement.

#### **Confidence** through knowledge transfer

Public confidence in the top-quality fulfillment of central bank tasks is every central bank's most important asset. To keep public confidence at a high level, the OeNB pursues an active information policy. The proactive transfer of knowledge is to increase public understanding of how a central bank functions and thus to contribute to ensuring public confidence.

Active communication with its customers enables the OeNB to continually improve its products and services and to adapt them to market requirements.

#### **Interdisciplinarity** through internationality and cooperation

The OeNB aims at ensuring financial stability in Austria and contributing to the smooth functioning of the Eurosystem both through strong links between the OeNB's various sections and national and international partners, and through close cooperation within the OeNB group<sup>1</sup> itself.

To fulfill these tasks in the best possible way, the OeNB actively cooperates with its partners in the Eurosystem, with commercial banks, public authorities and scientific institutions, to name but a few.

#### **Efficiency** through modern management

The OeNB strives to constantly improve its business processes and services. Improvements relate both to economic aspects (i.e. the efficient performance of tasks within the entire group) and to the reliable and high-quality accomplishment of operational tasks. Special emphasis is placed on the management of operational risks.

The OeNB intends to optimize its efficiency by further developing its know-how in business administration and by using innovative methods and techniques as well as a secure infrastructure.

<sup>1</sup> The term "group" is used as in the Annual Report of 2004.



## 2 Knowledge-Based Capital

When applied and transferred, knowledge turns into a good that offers rising profits. Consequently, investment in knowledge-based forms of capital in general has a long-term effect on the quality of business processes and thus on corporate success. Knowledge-based capital has to be viewed from the overall process perspective: If staff members (human capital) prepare a joint position with their counterparts at the European Central Bank (ECB) (relational capital) using suitable technical systems (structural capital), they render a service to the OeNB while at the same time enlarging the knowledge base they will be able to build on in the future.

The table below presents the current values for 2004 for all indicators and contrasts them with the comparable figures for 2003. Medium-term targets are indicated for those areas in which the OeNB intends to take specific controlling measures to steer developments into a particular direction.

### 2.1 Human Capital

The indicators relating to human capital make transparent staff structures as well as the know-how and career developments of OeNB employees. For the OeNB as a service provider which operates in a diverse and complex field requiring profound specialist knowledge and experience, employees are an extremely important success factor.

Indicators	Value 2004	Target	Corresponding knowledge goals				Value 2003
			Competence	Confidence	Interdisciplinarity	Efficiency	
<b>Staff structure</b>							
Headcount ( <i>average</i> )	957.3					●	952.5 <sup>2</sup>
Fluctuation rate (%)	1.2	▶		●			1.2
Percentage of university graduates	32.9	▲	●				32.6
Percentage of part-time employees	7.5	▲	●			●	5.6
Percentage of staff participating in teleworking schemes	2.0	▲	●			●	1.7
<b>Diversity Management</b>							
Percentage of women	40.0	▲	●				39.5
Percentage of women in specialist positions	23.2	▲	●				27.0
Percentage of women in management positions	17.0	▲	●				14.8
<b>Knowledge transfer</b>							
Total number of training days per employee ( <i>annual average</i> )	5.2	▶	●				5.0
Training participation rate (%)	68.4	▶	●				70.0
Expenses for training and education per employee (EUR)	2,087	▶	●				2,246
Number of completed and certified training courses ( <i>in-service</i> )	10	▶	●		●		13
Number of internal job rotations	32	▲	●				29
Number of working visits to national and international organizations	14	▲	●		●		12
Number of sabbaticals	8	▶	●			●	- <sup>3</sup>
Number of employees with external teaching assignments	19	▲	●	●			15

<sup>2</sup> The average headcount indicated in the 2003 report was 951.

The higher value given here results from a change in the calculation method.

<sup>3</sup> Data for this indicator were collected for the first time in 2004.

In 2004, the number of staff employed by the OeNB averaged 957. As in the previous year, the percentage of university graduates continued to rise in the reporting year, reaching 32.9% at end-2004. Thus, around one-third of the OeNB's staff currently holds university degrees.

Diversity management is of great importance to the OeNB. In fall 2004, for instance, the OeNB organized a high-level international panel discussion, which was designed to promote equal opportunities for women and men and which centered around the slogan "success by managing diversity." Such events highlight the OeNB management's strong commitment to putting gender equality into practice and the willingness to engage in a broad dialogue.

The OeNB offers employment models, such as part-time or teleworking schemes, which provide for maximum flexibility in the organization of working hours. This has helped many employees to reconcile their work and family lives, while others take advantage of this flexibility for education and training activities.



In its human resources development, the OeNB continued to apply state-of-the-art training methods in 2004. For the training of new staff members the OeNB increasingly relies on e-learning<sup>4</sup>. This approach ensures that all new employees can familiarize themselves individually with the OeNB's international responsibilities. The e-learning model is also applied in preparing internal training seminars. Moreover, e-learning also allows experienced employees to update their knowledge and facilitates professional reintegration after parental leaves.

In the field of human resources development, a permanent priority is to offer customized training and education for management staff. To cater for the different needs of newly appointed managers, experienced managers, top management staff, etc., several programs have been designed and implemented.

The OeNB's tight network at the European level is also reflected in its training and education activities. Together with the Deutsche Bundesbank, for example, the OeNB offered seminars on various special topics, such as the "Advanced Seminars on Basel II," for experts within the ESCB/Eurosystem. In certain areas (e.g. basic and management staff training) joint seminars are planned and organized at the ESCB/Eurosystem level. In this context, the OeNB shares its expertise on human resources development by participating in committees, organizing events and providing speakers. Thus, it is an active partner in developing and implementing training activities at a European level.

The growing readiness of the OeNB's employees to participate in national or international job rotation schemes has a positive effect on the high level of their know-how and on mobility. These schemes support employees who wish to gain work experience at the ECB, at other national central banks (NCBs), with one of the OeNB's subsidiaries or in another division within the OeNB over a limited period of time. In addition to 32 cases of internal job rotation, 14 job rotations were organized at the international level in 2004, which had a favorable impact on the development of relational capital.

<sup>4</sup> In this report, e-learning refers to an intranet-based modular learning and reference tool that is accessible to OeNB employees at all times.



## 2.2 Structural Capital

Supported by reliable IT systems, efficient processes and structures ensure smooth business operations. Structures constitute a company's basic framework, but they also have a dynamic aspect: Almost to the same extent as the OeNB's environment changes, its structures are actively modified on an ongoing basis, too.

Indicators	Value 2004	Target	Corresponding knowledge goals				Value 2003
			Competence	Confidence	Interdisciplinarity	Efficiency	
<b>Management structure</b>							
Span of supervision	8	▶				●	8
Number of product managers	69	▶	●			●	68
<b>Technical infrastructure</b>							
Number of IT applications	196					●	150
Availability of the ARTIS payment system (%)	99.87	▲	●	●		●	99.38
Error-free payment transactions (%)	99.99	▶	●	●		●	99.99
<b>Procurement</b>							
Procurement efficiency	332	▲	●			●	323
Ratio of catalogue orders to total orders	37.1	▲	●			●	39.8
Number of calls for tender	26		●	●		●	39
Number of active suppliers	1,938	▼	●	●		●	1,990
<b>Environmental protection and quality assurance</b>							
Number of environmental controllers	29	▲				●	32
Number of environmental auditors	12	▲				●	9
Number of quality auditors	18	▶				●	19
<b>OeNB group</b>							
Number of subsidiaries in payment system services	7		●		●	●	7

To efficiently control its performance and to translate its strategic goals into concrete operative measures, the OeNB increasingly uses product management in addition to line organization. Through specialist employees, so-called product managers, who are familiar with the value creation process of individual products, responsibility is decentralized and cost awareness is raised, while customer needs are optimally met.

*“A strong, economical infrastructure and efficient support processes constitute a solid foundation for the OeNB's productivity and for high customer satisfaction.”*

*Albert Slavik  
Director of the OeNB's Organization and Internal Services Section*

*“The sum of all assets, including the increasingly important intangible assets, forms the basis of a sound and successful company.”*

*Michael Wolf*

*Director of the OeNB's Accounting Section*

In 2004, the OeNB's entire range of products and processes was documented in a transparent manner. 69 product managers attended internal workshops which were organized, among other things, to optimize procedures and thereby identify potential for cost reductions.

The lasting benefit of the OeNB's IT infrastructure, which is constantly being improved, consists in high-quality reproducible services and in IT products provided on the basis of a secure and stable infrastructure. In the reporting year, for example, the OeNB introduced an IT application for job type descriptions to facilitate personnel management, organizational development and leadership tasks.

As a central bank, the OeNB attaches particular importance to security. This also applies to its IT environment. Owing to intensified technical links to other organizations (Financial Market Authority, banks, ECB) and the public (website, newsletters, correspondence via the Internet) IT security has become more important than ever before. To maintain the very high level of its IT security management and, at the same time, adapt it to changing demands, the OeNB has restructured several related subtasks (e.g. network administration, security incident handling, authorization management). IT security forms part of operational risk management, which permits the OeNB to quantify, compare and minimize risks resulting from internal processes, systems, people and external events.

The OeNB uses an e-procurement system<sup>5</sup> to ensure the efficiency of procurement processes. The system provides access to an electronic catalogue of goods and services. To benefit from group-wide synergy effects, the OeNB has established a procurement platform open to all companies of the OeNB group. By pooling procurement volumes, costs are to be further reduced in the future.

The OeNB's facility management permits the integrated processing and provision of services required for the OeNB's core processes. Its primary objective is to ensure that the value of corporate buildings and technical facilities is maintained. The related tasks are supported by a computer-aided facility management system that provides up-to-date information on buildings, facilities, services and costs on the basis of a facility identification system specifically developed for this purpose. External benchmarking is ensured through an operating cost benchmarking pool provided by ATGA (Akademie für Technische Gebäudeausrüstung).

A new technical platform has been developed to improve group-wide reporting. Largely automated data input, transfer and processing will not only ensure high-quality, timely reports, but also free capacities for the further strategic development of group-wide controlling to the benefit of all companies within the OeNB group.

### **Environmental Protection and Quality Assurance**

The OeNB is strongly committed to continuing its successful corporate environmental policy. After the Eco-Management and Audit Scheme (EMAS) had been implemented for all OeNB sites in Vienna in 2002 and, subsequently, at all the branch offices, in the reporting year, the Linz and Salzburg offices were awarded EMAS certificates by the environmental minister of Austria and the competent provincial councilor of Salzburg, respectively. In November 2004, the OeNB's IT quality management system (QMS) was successfully recertified according to ISO 9001:2000 standards. The main purpose of the QMS, which was introduced in 2001, is to implement standardized customer-oriented IT processes and to optimize them on an ongoing basis.

<sup>5</sup> In this report e-procurement refers to an intranet-based internal ordering system for all OeNB divisions.



## 2.3 Relational Capital

As part of a tightly knit, well-functioning network of national and international relations, the OeNB contributes to shaping the development of monetary and economic policies in Austria and Europe and thus plays an active part in European integration. In this context, close contacts with customers, partners and the public are just as important as the participation in international bodies.

Indicators	Value 2004	Target	Corresponding knowledge goals				Value 2003
			Competence	Confidence	Interdisciplinarity	Efficiency	
<b>Cooperation and networks</b>							
Number of days on which the OeNB hosted international events	147			●	●		- <sup>6</sup>
Number of national bodies with OeNB representatives	94		●		●		81
Number of international bodies with OeNB representatives	198		●		●		172
Number of technical assistance projects	30		●	●	●		23
Number of information visits to the OeNB	96		●	●	●	●	- <sup>6</sup>
Number of lectures delivered by OeNB staff	706	▶	●	●	●		744
<b>Publications and public relations</b>							
Number of OeNB publications	57		●	●			58
Number of papers by OeNB staff published in specialist journals	149	▲	●	●			115
Number of scientific papers by OeNB staff published in refereed journals	42	▲	●	●			25
Number of press releases	170		●	●			162
Number of press conferences	29		●	●			26
Number of inquiries to OeNB hotlines	33,193		●	●		●	28,500
Confidence index (%)	78	▶		●			82
<b>Internet-based communications</b>							
Number of visits to the OeNB website (daily average)	213,000	▲	●			●	- <sup>6</sup>
Number of newsletter subscriptions	11,250	▲	●			●	9,631

In the reporting year, representatives of the OeNB were active in a total of 94 national and 198 international bodies<sup>7</sup>, most importantly the various committees and working groups of the ESCB/Eurosystem. The most prominent example in this context is the active involvement of the OeNB's Governor in monetary policy decision making and other important tasks within the Governing Council of the ECB. Moreover, the OeNB is represented in numerous bodies of the European Union (e.g. participation in informal Ecofin meetings), the International Monetary Fund (IMF) (e.g. representation on the Board of Governors), the BIS and the OECD.

<sup>6</sup> Data for this indicator were collected for the first time in 2004.

<sup>7</sup> As in other cases, the increase vis-à-vis 2003 recorded for these figures is mainly attributable to methodological changes.



Strong international links are also reflected by the number of research visits and research cooperation projects the OeNB jointly implements with external partners. An example illustrating the successful cooperation between the OeNB and academic researchers is the research fellowship program the OeNB's Economic Analysis and Research Section launched in 2002. In 2004, intensive research cooperation was once more evidenced by the steadily rising number of papers published by OeNB staff in specialist and refereed journals.

Moreover, the OeNB hosts a high number of international meetings featuring national and international speakers and discussants, and thereby acts as a knowledge hub. In addition to the OeNB's 32<sup>nd</sup> Economics Conference, 2004 saw the first Conference on European Economic Integration<sup>8</sup>, which took place in November. In line with the OeNB's new, enhanced research focus, the latter concentrated on economic and political developments in Southeastern Europe. Marking the 60<sup>th</sup> anniversary of the Bretton Woods Institutions, i.e. the IMF and the World Bank, the OeNB and the Reinventing Bretton Woods Committee cohosted a conference in Vienna in June 2004. Furthermore, numerous international workshops were organized, for example on the EU Constitutional Treaty and its impact on Economic and Monetary Union (EMU).

*"Today, competitive expertise in economic analysis and research is primarily based on effective international networking and on actively building staff know-how."*

*Peter Mooslechner*

*Director of the OeNB's Economic Analysis and Research Section*

The OeNB has traditionally attached great importance to transferring knowledge and practical know-how to central bank staff from Central and Eastern European transition economies and from the former Soviet Union. To this end, it organizes technical cooperation projects and thus supports these countries on their way toward becoming market-oriented economies. Many of the related activities are organized by the Joint Vienna Institute (JVI), which has been based in Vienna since 1994. A Memorandum of Understanding signed by the IMF, the Austrian Federal Ministry of Finance and the OeNB in 2002 ensured the permanent existence of the JVI in Vienna. In 2004, the OeNB held a total of seven seminars at the JVI, which covered the following topics: EMU, payment instruments and payment systems, financial stability, central bank management as well as the translation of ESCB publications.

<sup>8</sup> Incorporating new concept, the Conference on European Economic Integration has replaced the former East-West Conference.



The OeNB also actively contributes to coordinating technical assistance within international bodies of the Eurosystem and the BIS. Together with eight other NCBs and three non-central bank supervisors, for example, the OeNB participates in a TACIS<sup>9</sup> project funded by the European Union and coordinated by the ECB. The project's objective is to enhance the stability of the Russian banking system by training around 25% of the banking supervision staff of the Bank of Russia.

Another example of successful multilateral cooperation is the first meeting initiated by the OeNB within the framework of statistical cooperation among the central banks of the Danube region in mid-November 2004. This meeting was attended by the statistics directors of the NCBs of Hungary, Slovakia, Slovenia, the Czech Republic and Austria. The initiative aims at making visible and strengthening the OeNB's role as a partner to the NCBs in the new (in particular the neighboring) EU Member States.

The OeNB arranges numerous information visits at a bilateral level, which are for the first time included in this Intellectual Capital Report. In the reporting year, the demand for these information events was especially strong in the new EU Member States and in the accession and candidate countries, which accounted for more than one-third of the total of 96 visits.

The OeNB is a strongly service orientated enterprise. In 2004, for example, the customers of the statistics hotline, the Bank History Archives, the cash counters, the electronic tender system as well as the monthly balance of payments statistics were surveyed with the aim of measuring their satisfaction with the products offered. The exchange of information during the survey reinforced customer relations. The outcome of the survey was highly interesting; numerous customer suggestions resulted in quality improvements and some even in cost reductions.

In terms of public relations work, 2004 was an extremely busy year: The OeNB held 29 press conferences and press talks and issued 170 press releases. High image ratings confirm the effectiveness of the OeNB's information policy, with the OeNB primarily being assessed as responsible, competent and trustworthy.

Policymakers have traditionally been key dialogue partners for the OeNB. Thus, the OeNB's Governor and Vice Governor regularly report to the finance committee of the Nationalrat (the lower chamber of the Austrian parliament) on the current economic situation, monetary policy in the euro area as well as significant financial market developments.



<sup>9</sup> *Technical Assistance to the Commonwealth of Independent States.*



In 2004, the OeNB organized an extensive series of seminars for financial and business journalists, which culminated in a visit to the ECB in Frankfurt. These seminars made it possible to cover and discuss all aspects of central banking with a special focus on the single monetary policy. Moreover, they enabled the OeNB to further intensify its contacts with media representatives.

Over the years, the OeNB has built a reputation as a national and international dialogue platform. The varied events hosted by the OeNB serve as a forum for exchanging opinions on economic policy and promote economic discourse. In 2004, the OeNB's events were attended by around 12,000 participants.

For years, the OeNB has played a leading role in supporting and providing training on money and currency issues. In the context of the EU's enlargement on May 1, 2004, alone, the OeNB supplied around 2,200 schools with numerous education kits (more than 220,000 brochures, 47,000 folders and other materials) explaining various aspects of monetary and economic policy. In 2004, the OeNB welcomed more than 2,600 young visitors on school excursions and informed them about various euro-related topics.

The Money Museum is a provider of cultural knowledge and aims at informing the public about money, banknotes and coins as well as economic issues in a modern fashion. As a center of expertise on the history of money and on bank history, the Museum answered more than 260 inquiries in 2004. Furthermore, it organized 237 guided tours and museum events (including participation in the "Lange Nacht der Museen," a museums-by-night event) and recorded a total of 10,546 visitors in the reporting year, including both group and individual visitors. In September 2004, the Money Museum was awarded the Austrian quality seal for museums in recognition of its professional management.





## 2.4 Innovation Capital

The OeNB is active in the field of innovation in a multitude of ways. In addition to its role in innovation and research promotion, the OeNB contributes to strategic and technological innovation through the continuous efforts of its experts. This is evidenced both by the projects implemented in 2004 and by the indicators related to innovation capital.

Indicators	Value 2004	Target	Corresponding knowledge goals				Value 2003
			Competence	Confidence	Interdisciplinarity	Efficiency	
Percentage of staff resources utilized for innovative projects	11.2	▶				●	10.9
Internal R&D expenditure (EUR 1,000)	3,925	▶	●				3,347
Number of research cooperation projects with external partners	38	▲	●		●		44
Number of research visits	3	▲	●		●		3
Number of opinions prepared on economic research promotion	493		●				- <sup>10</sup>
Number of OeNB e-business applications accessed per day (average)	590	▲		●		●	545

In September 2004, the relaunch of the OeNB's website ([www.oenb.at](http://www.oenb.at)) was completed. The new website presents the OeNB's expertise on the Internet and provides varied information on the OeNB's tasks and organizational structure, on banknotes, coins and the euro, on the monetary policy of the Eurosystem and financial stability, on the Money Museum and the various collections of the OeNB, etc. Statistical reporting regulations and information on payment processing can be found just as easily on the website as press releases and publications. Integrated applications, which among other things allow customer-friendly access to all the statistical data provided by the OeNB, round off the comprehensive information available on the OeNB's website. Internally, the OeNB's website is supported by an enterprise content management system<sup>11</sup>. From April to May 2004, around 60 editors from all OeNB divisions received training that enables them to keep the information and services offered on the OeNB's website up to date.

The CEEC Research Platform<sup>12</sup> on the OeNB's website is an innovative communication tool established on the basis of the OeNB's internationally renowned expertise in Central and Eastern European issues. The platform, which offers selected reports, analyses and studies about economic developments in Central, Eastern and Southeastern Europe, is in high demand as a source of reference among experts from central banks, commercial banks, international organizations, research institutes and universities, as well as journalists and the interested public in Austria and abroad.

*"The provision of specialized information and communication technologies is an essential basis for effective and efficient central banking."*

*Wolfgang Pernkopf*  
Director of the OeNB's Payment Systems and Information Technology Section

<sup>10</sup> Data for this indicator were collected for the first time in 2004.

<sup>11</sup> This system provides software support for managing contents throughout the OeNB.

<sup>12</sup> <http://ceec.oenb.at>.



At end-2004, the central primary data platform OBServ<sup>13</sup> went online. Every day, OBServ fully automatically receives primary data on companies and banks from numerous sources, such as the Austrian company register or the Austrian rating agency Kreditschutzverband von 1870. These data form an important basis e.g. for banking supervision and statistics. State-of-the-art technology ensures maximum flexibility and transparency for users. Thus, OBServ makes a fundamental contribution to implementing Basel II requirements at the OeNB.

In line with an agreement with the ECB, the OeNB has taken responsibility for the IT maintenance and further development of the Counterfeit Monitoring System, an IT application used all over the ESCB in the fight against the counterfeiting of euro banknotes and coins. This agreement, under which the OeNB is remunerated for its services, is a pilot project within the ESCB which may serve as a model for future cooperation and the division of responsibilities in IT-related matters.

In 2003, the OeNB introduced a new front office system, which contributed to optimizing the organizational and workflow structures in the treasury domain. This system ensures that the OeNB's Treasury Section will continue to operate in an economical and sustainable manner.

*“In times of harmonized monetary policy instruments, Austrian banks appreciate our e-business application for tender procedures as a special service.”*

*Rudolf Trink  
Director of the OeNB's Treasury Section*

The OeNB's services, which can be accessed on the Internet at any time, are continuously updated and improved. Several IT applications used within the OeNB, primarily e-business applications<sup>14</sup> for communications with banks, use digital signatures.

The OeNB has always been committed to the arts and, under a comprehensive art sponsoring program, collects works of Austrian artists and helps keep Austrian art in the country. An innovative form of presenting artworks is the OeNB's virtual museum “geld.kunst.raum”<sup>15</sup>, which was relaunched in the fall of 2004, featuring a top-quality display of works by Austrian artists Egger-Lienz, Faistauer, Kokoschka, Moll, Oppenheimer, Thöny, Mahringer and Walde.

<sup>13</sup> This abbreviation stands for “OeNB Basisstammdaten Service.”

<sup>14</sup> For example, eTender, eKonto (electronic account) and the Major Loans Register.

<sup>15</sup> An extensive collection with a focus on Austrian paintings from the period between World War I and World War II, on Austrian figurative sculptures and paintings stemming from the second half of the 20<sup>th</sup> century and on contemporary Austrian art can be accessed at <http://geldkunstraum.oenb.at>.

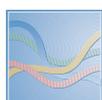
## 3 Business Processes and Services



In 2004, the OeNB continued to successfully perform its tasks in an effective and efficient manner. To meet the requirements of a modern central bank, the OeNB consistently intensified its focus on those tasks that demand a high level of professional competence.

In handling business processes and providing services, the OeNB makes targeted use of its knowledge-based capital, which makes it possible to fulfill tasks in a competent manner and at the same time maximize customer benefits. As it is difficult to make the notion of intellectual capital tangible, the following examples of the OeNB's business processes and services are to illustrate how intellectual capital can be put to use.

### **Knowledge Goal: Interdisciplinarity through Internationality and Cooperation**



#### **Competence Center for Economic Policy**

One of the OeNB's core functions is to maintain price stability and financial stability. This task requires in-depth economic policy analyses and comprehensive economic research. The OeNB's economic analyses concentrate on monetary policy and inflation, business cycles and forecasts, fiscal policy, structural policy and labor market issues as well as on macroaspects of financial markets; their geographic focus lies on Austria, the euro area and Central and Eastern Europe.

In-house research and analyses support demand-oriented, high-quality state-of-the-art research activities (human capital); the results of these research activities are incorporated directly in the OeNB's economic publications and form the basis of economic policy advice (relational capital). Moreover, the OeNB has access to original data (structural capital) that have to be analyzed and interpreted to identify developments at an early stage and to respond to them adequately.

Since the first quarter of 2003, the OeNB has published a new economic indicator (innovation capital). By forecasting real GDP growth, this indicator provides an outlook on the short-term growth prospects of the Austrian economy. It is intended to give decision makers in business, politics and public administration a point of reference for gauging imminent cyclical developments. Moreover, the OeNB contributes to the Eurosystem staff macroeconomic projections for the euro area, which are drawn up semiannually by experts from the ECB and the euro area NCBs. In this process, the OeNB prepares the Economic Outlook for Austria, which usually meets with great public interest.



## Knowledge Goal: **Confidence** through Knowledge Transfer



### **Competence Center for Financial Statistics**

The OeNB sees itself as the competence center for financial statistics in Austria. By generating, processing, transferring and using knowledge, the OeNB aims at ensuring the best possible performance of its tasks. Taking informed decisions in the fields of single monetary policy, economic policy and business location policy and ensuring financial stability requires reliable, up-to-date statistics on Austria's financial and external sectors.

Knowledge-based capital serves to optimize the efficiency and quality of business processes and to ensure a well-functioning, powerful information infrastructure by relying on professional support processes. With the help of appropriate technical systems (structural capital) and in cooperation with external and OeNB experts (relational capital), the OeNB's statistics staff (human capital) collects and validates the raw data that are supplied in electronic form by the reporting entities, aggregates them into condensed information/knowledge and, finally, analyses this information. OeNB employees are actively involved in the continuous improvement of statistics both at the European and the national level (innovation capital). Through this process, the OeNB simultaneously expands its own knowledge base and shares its knowledge with others, thereby maximizing economic benefits.

The knowledge generated in this process is made available to decision makers in Austria and abroad as well as to the general public, as statistics are considered a public good. Next to the various OeNB divisions that use OeNB statistics as input to their business processes, other users include the OeNB's Eurosystem partners (e.g. the ECB), national authorities (e.g. the FMA), international organizations (Eurostat, OECD, IMF, BIS) and national (scientific) institutions (e.g. Statistics Austria, IHS, WIFO).

Based on a proactive information policy, the OeNB informs the public on statistical topics in a target group-oriented way by issuing statistical publications (e.g. Statistiken – Daten & Analysen), organizing press conferences, making a broad range of statistical information available on the Internet<sup>16</sup>, publishing papers and holding lectures.

*“Figures become data, data become information, information becomes knowledge, and knowledge builds trust.”*

*Aurel Schubert  
Director of the OeNB's Statistics Section*

<sup>16</sup> See “Statistics and Reporting” at [www.oenb.at](http://www.oenb.at).



## Knowledge Goal: **Efficiency** through Modern Management



### Competence Center for Cash Payments

In contrast to the strategy of other central banks which withdrew from the cash segment after the euro cash changeover, the OeNB stepped up its involvement. The establishment of the cash services provider GELDSERVICE AUSTRIA Logistik für Wertgestionierung und Transportkoordination G.m.b.H. (GSA) was of particular importance for the role the OeNB plays in ensuring smooth and secure payment transactions.

The basic idea for setting up the GSA was to streamline cash cycle processes in cooperation with commercial banks. For that purpose, the cashier's divisions of the participating banks as well as the cash-handling units of the OeNB's Cashier's Division were outsourced to the new company (structural capital). These steps were intended to ensure that the necessary sorting and counting processes are performed only once at the GSA instead of several times (i.e. at the commercial banks and the OeNB) and resulted in a significant cost reduction both for banks and the OeNB while increasing the service quality for (third-party) customers.

Its strong involvement in the cash cycle and the expertise acquired in this process enable the OeNB to define quality standards for currency in circulation (in particular by specifying the separation rate for unfit banknotes). The higher the quality of banknotes in circulation, the easier it is for everyone to identify counterfeits. To familiarize people with the security features of euro banknotes, the OeNB offers special training both for expert cash handlers and the general public. In 2004, the OeNB's Cashier's Division and branch offices organized around 500 training sessions on the security features of the euro, which were attended by more than 10,000 participants; thus, a large number of multipliers all over Austria could be reached (relational capital).

*“The Mobile Branch Office has played an essential role in disseminating information on banknote security features, reaching more than 200,000 people in 2004 alone.”*

*Stefan Augustin  
Director of the OeNB's Cashier's Division and Branch Offices Section*

In addition, the OeNB acts as a catalyst for innovations in cash services. A current project, for instance, examines the potential use of cash recycling machines. A cash recycling machine combines the function of an automated payment machine (APM) and an automated teller machine (ATM), i.e. it can – under certain circumstances and as long as certain quality criteria are fulfilled – be used both for cash payments and cash withdrawals (innovation capital). The pilot project during which the OeNB and the GSA tested this new technology will help banks save on testing costs in particular. Moreover, banks can safely assume that the system solution will be counterfeit proof.

## Knowledge Goal: **Competence** through Specialized Knowledge



### Competence Center for Financial Supervision

In close cooperation with the Financial Market Authority (FMA), the OeNB issued a series of guidelines on credit risk in 2004. The series comprises ten separate publications and discusses aspects directly related to the implementation of Basel II and general key issues of credit risk management. This project continued the OeNB's smooth cooperation with the FMA, which so far has produced a series of guidelines on the regulatory framework of market risk management (Guidelines on Market Risk) and on the assessment of structured capital market products<sup>17</sup>.

The guidelines were prepared in close cooperation between the OeNB, the FMA and both Austrian and international experts (relational capital). Furthermore, they were reviewed by representatives of Austrian banks. The objective of these efforts was to build know-how both at the OeNB and the FMA to enable these institutions to act as competent partners in supporting banks in the implementation of Basel II. In a constructive dialogue between the banking industry and the supervisory bodies, the findings obtained in the process were presented in a clear and concise form and made available to banks and the interested public, inter alia on the OeNB's website<sup>18</sup>. Hence, the various guidelines also constitute a valuable contribution to building a common understanding of the imminent changes in the banking business and promote an effective cooperation between banks and supervisory bodies.

*“Knowledge grows when you share it: It is our staff’s state-of-the-art knowledge that makes financial intermediaries accept us as an active and competent partner.”*

*Andreas Ittner*

*Director of the OeNB’s Financial Institutions and Markets Section*

From June 2003 to August 2004, the Austrian financial sector was subject to a voluntary evaluation within the framework of the Financial Sector Assessment Program (FSAP) conducted by the International Monetary Fund (IMF). The FSAP aims to identify the vulnerabilities of a country's financial system both to prevent crises and to determine priorities for future development of the financial sector as well as to enhance financial sector efficiency.

To prepare and carry out the FSAP exercise in Austria, a joint FSAP secretariat was set up in spring 2003, with one representative each of the Federal Ministry of Finance, the FMA and the OeNB serving as contact persons for all Austrian and international institutions involved (relational capital). This structure ensured a rapid transfer of information, efficient coordination and a professional handling of tasks. During the FSAP exercise, the OeNB had to provide comprehensive resources and know-how from diverse fields to ensure the successful completion of this highly comprehensive assessment (structural capital). In evaluating the risk-bearing capacity of the Austrian financial system, for example, the IMF – in close cooperation with the OeNB – devised and conducted numerous stress tests to assess the impact of exogenous shocks on the Austrian banking sector with a view to determining financial stability in Austria. The IMF's assessment of the Austrian financial market was very positive and confirmed, in particular, the shock resilience and stability of the Austrian financial sector.

<sup>17</sup> Structured products are combinations of simple financial instruments (bonds, stocks and/or derivatives).

<sup>18</sup> See “Media and Publications” at [www.oenb.at](http://www.oenb.at).



## 4 Summary and Outlook

The present Intellectual Capital Report is the second report on the knowledge-based capital of the Oesterreichische Nationalbank (OeNB). It continues the pilot project carried out in 2003, with which the OeNB had broken new ground. The results presented in the first Intellectual Capital Report and the positive responses both from inside and outside the OeNB encouraged us to continue our efforts in this field. While the data recorded in the 2003 Intellectual Capital Report represented a first stocktaking, it is now possible to observe developments by comparing 2003 and 2004 data. It is obviously too early to identify any trends at this point, but this comparison still makes it possible to describe changes and examine their cause. The results for 2004 – like those for 2003 – impressively confirm the quantity, diversity and productive use of the OeNB's knowledge-based capital. To put it in a nutshell, the OeNB, as it presents itself in 2004, may well be called a think tank. It has built a network of competence centers covering the core functions of a modern central bank and thus contributes significantly to ensuring security and stability.

A comprehensive set of indicators is at the heart of the OeNB's Intellectual Capital Report. After only two years of observation, most of these indicators have already been found to develop into the desired direction. In these cases, the OeNB will strive to maintain its course. Those indicators, however, that have not been developing as desired, even when potential extraordinary short-term effects are taken into account, represent both a challenge and an incentive for the OeNB's present and future activities.

The broad dissemination of knowledge and expertise is just as important as its existence, generation and application. Passing on knowledge creates new knowledge. Therefore, the OeNB undertook great efforts in 2004 to make its knowledge accessible to a broad public through modern publication channels. After its successful relaunch, the OeNB's website ([www.oenb.at](http://www.oenb.at)), for instance, has developed into the most important distribution medium the OeNB has at its disposal. In parallel, the OeNB's printed publications underwent an extensive revision process and, as a result, have been adapted to better meet the information needs of the OeNB's various customer groups.

In 2004, the OeNB directed special efforts at stepping up its networking activities with its partners in Austria and abroad. Since four of the ten new EU Member States directly border on Austria, our country has moved from the fringe of the European Union to the center of the new Europe. On the back of these developments, the OeNB's long-standing relations to its partners in these countries will benefit significantly from a wide range of new enlargement-related initiatives.

Socrates once said, "All I know is that I know nothing." After completing two Intellectual Capital Reports, the OeNB is proud to say that it does know how much its employees know and how well they use their knowledge-based capital to the benefit of Austria and Europe. By publishing this Intellectual Capital Report, the OeNB shares its knowledge with the interested public and, thereby, contributes to fostering transparency. The Intellectual Capital Reports of coming years will hopefully help reinforce this positive impression.



# List of Indicators

Indicators	Definition
<b>Human Capital</b>	
<b>Staff structure</b>	
Headcount (average)	Average headcount at year-end
Fluctuation rate (%)	Number of staff who left the service of the OeNB (excluding retirements) relative to total number of staff
Percentage of university graduates	Share of university graduates in headcount at year-end
Percentage of part-time employees	Number of staff with a part-time contract relative to total number of staff at year-end
Percentage of staff participating in teleworking schemes	Number of staff with a teleworking contract relative to total number of staff at year-end
<b>Diversity management</b>	
Percentage of women	Share of women in headcount at year-end
Percentage of women in specialist positions	Specialist position: For highly specialized employees, the OeNB also offers the possibility to opt for a specialist career which exclusively concentrates on technical expertise and coordination tasks. Indicator: Number of women in specialist positions relative to total number of specialist positions at year-end
Percentage of women in management positions	Number of women in management positions relative to total number of management positions at year-end
<b>Knowledge transfer</b>	
Total number of training days per employee (annual average)	Number of days dedicated to training and education relative to average headcount
Training participation rate (%)	Number of staff who took part in at least one internal and/or external training and education course in the reporting year relative to average headcount
Expenses for training and education per employee (EUR)	Expenses for training and education (including travel expenses) relative to average headcount
Number of completed and certified training courses (in-service)	Number of staff who, on their own initiative and mostly outside working hours, completed doctoral programs, post-graduate programs or specialized courses in the reporting year
Number of internal job rotations	Number of staff who, for at least three months, worked in an organizational unit other than their own
Number of working visits to national and international organizations	Number of staff who, for at least one month, worked at the ECB, at other NCBs, EU institutions, the IMF, the OECD or with ministries or OeNB subsidiaries
Number of sabbaticals	Number of staff who, for at least six months, did not work at the OeNB
Number of employees with external teaching assignments	Number of staff who have teaching assignments at universities and/or other academic institutions
<b>Structural Capital</b>	
<b>Management structure</b>	
Span of supervision	Number of staff relative to number of management staff at all levels
Number of product managers	Number of product managers responsible for one or more OeNB products
<b>Technical infrastructure</b>	
Number of IT applications	Number of standard IT applications and in-house software solutions
Availability of the ARTIS payment system (%)	Operating time during which the ARTIS payment system was available
Error-free payment transactions (%)	Number of error-free payment transactions relative to total number of payment transactions
<b>Procurement</b>	
Procurement efficiency	Number of orders placed relative to staff capacity in purchasing
Ratio of catalogue orders to total orders	Number of orders automatically generated using the e-procurement catalogue relative to the total number of orders placed
Number of calls for tender	Number of calls for tender published pursuant to the Federal Procurement Act (value exceeding EUR 60,000)
Number of active suppliers	Number of suppliers with whom orders were placed in the reporting year
<b>Environmental protection and quality assurance</b>	
Number of environmental controllers	Number of staff serving as contact persons for environmental issues
Number of environmental auditors	Number of staff assessing the effectiveness of the OeNB's environmental management system according to EMAS standards
Number of quality auditors	Number of staff assessing the effectiveness of the OeNB's quality system according to ISO 9001 standards

Indicators	Definition
<b>OeNB group</b> Number of subsidiaries in payment systems services	<i>Number of companies in which the OeNB holds shares and which are active in the cash payments and cashless payments segments (see also Annual Report)</i>
<b>Relational Capital</b>	
<b>Cooperation and networks</b> Number of days on which the OeNB hosted international events Number of national bodies with OeNB representatives Number of international bodies with OeNB representatives Number of technical assistance projects Number of information visits to the OeNB Number of lectures delivered by OeNB staff	<i>Number of days on which the OeNB organized and hosted events (meetings, conferences) with international participants            Committees and working groups of national organizations whose meetings were attended by OeNB representatives            Committees, working groups and tasks forces of e.g. the ESCB/Eurosystem, EU, IMF, BIS, OECD or of other international organizations whose meetings were attended by OeNB representatives            Number of projects during which the OeNB provided expert technical assistance to other NCBs outside the Eurosystem            Number of visits to the OeNB aimed at exchanging experience with NCB experts            Number of lectures delivered by OeNB staff for external audiences at in-house or external events</i>
<b>Publications and public relations</b> Number of OeNB publications Number of papers by OeNB staff published in specialist journals Number of scientific papers by OeNB staff published in refereed journals Number of press releases Number of press conferences Number of inquiries to OeNB hotlines Confidence index (%)	<i>Number of printed OeNB publications            Number of nonrefereed contributions published by OeNB staff in specialist journals            Number of contributions published by OeNB staff (authors or co-authors) in scientific journals (e.g. Journal of Money, Credit and Banking, etc.) refereed by anonymous referees (Peer-Reviewed Journals) and in conference proceedings refereed by anonymous referees (Refereed Conference Proceedings)            Number of press releases distributed to media representatives            Number of events organized for media representatives            Number of media inquiries answered by OeNB hotlines            Results of an opinion poll on public confidence in a specific institution (Source: IFES, commissioned by the OeNB)</i>
<b>Internet-based communications</b> Number of visits to the OeNB website (daily average) Number of newsletter subscriptions	<i>Visits include all visits to HTML pages, images, style sheets and JavaScript files as well as the number of downloaded PDF and ZIP files.            Number of subscriptions to OeNB newsletters (e.g. the Newsletter of the Economic Analysis and Research Section and the Basel II Newsletter)</i>
<b>Innovation Capital</b>	
Percentage of staff resources utilized for innovative projects Internal R&D expenditure (EUR 1,000) Number of research cooperation projects with external partners Number of research visits Number of opinions prepared on economic research promotion Number of OeNB e-business applications accessed per day (average)	<i>Staff resources utilized for innovative projects relative to total staff resources            Research and development expenditure as defined by Statistics Austria            Research cooperation projects deal with scientific issues; typical partners for research cooperation projects are scientific institutions, universities and the research departments of other NCBs.            Research visit: visit of at least three months at other NCBs or scientific institutions, mainly for research purposes            Opinions prepared by OeNB staff on projects submitted to the OeNB's Anniversary Fund, on applications for loans under the European Recovery Program (ERP) and on applications for changes to ERP loans. In 2003, opinions were also prepared on project applications for industrial research promotion. This activity was not continued in 2004.            E-business applications: the OeNB's web-based IT systems</i>

# Abbreviations

ARTIS	Austrian Real Time Interbank Settlement
ATGA	Akademie für technische Gebäudeausrüstung ( <i>Austrian institution providing consulting services and seminars on facility management and technical equipment for buildings</i> )
BIS	Bank for International Settlements
ECB	European Central Bank
EMAS	Eco-Management and Audit Scheme
ESCB	European System of Central Banks
EU	European Union
Eurostat	Statistical Office of the European Communities
FMA	Financial Market Authority ( <i>Austria</i> )
FSAP	Financial Sector Assessment Program
GDP	gross domestic product
GSA	GELDSERVICE AUSTRIA Logistik für Wertgestionierung und Transportkoordination G.m.b.H. ( <i>Austria's cash services company</i> )
IHS	Institut für Höhere Studien ( <i>Institute for Advanced Studies</i> )
IMF	International Monetary Fund
IT	information technology
JVI	Joint Vienna Institute
NCB	national central bank
OBServ	OeNB Basisstammdaten Service ( <i>system for centralized primary data management</i> )
OECD	Organisation for Economic Co-operation and Development
OeNB	Oesterreichische Nationalbank
QMS	quality management system
R&D	research and development
Tacis	Technical Assistance to the Commonwealth of Independent States
WIFO	Österreichisches Institut für Wirtschaftsforschung ( <i>Austrian Institute of Economic Research</i> )





