



The first four-operation computer based on the stepped-wheel



◆ | Calculating machine designed by G.W. Leibniz





REALTECH AG	
Price	3,00
Date	30.01.03
SID	700 890

● Gottfried Wilhelm Leibniz, born in Leipzig, was considered a type of “all-round genius” even while still alive. He was not only familiar with the knowledge of his time but also enriched it with diverse solutions, the ground-breaking nature of which was often only recognized decades or even centuries later. As a great mathematician, for instance, he was the first to use the notation for integrals and formulated the laws of binary arithmetic nearly 200 years before George Boole.

● Considering routine calculation work to be below his dignity, he developed his “lebendige Rechenbank” (living calculating bench) over the period from 1673 to 1694. This mechanical calculating machine was the first machine able to perform all four basic types of calculation directly without the need for manual intervention (for instance in order to carry over tens, a task that had to be carried out manually on all previous machines). Due to the fact that no solution had been found before for many of the associated problems, he also had to develop the logical/mechanical foundations himself. His inventions included the stepped wheel and the sprocket wheel, the principle of which was still used as the basis for practically all calculating machines 300 years later.



Solutions 1694



Shares

A cheerful year on the stock market in 2003

Following three consecutive years of losses, 2003 heralded a turnaround, with some substantial gains on both national and international stock markets. The dramatic 44 per cent decline of the Dax in 2002 was counteracted in the year under review by a 37 per cent rise. Even though the central index did not quite reach the 4000-point mark towards the end of the year, the year as a whole was very positive. Starting from its low in March 2003, the Dax rose by more than 80 per cent up to the end of the year. Moreover, 2003 was also a good year for second-line stocks. The MDax, which comprises shares in companies from traditional industries, gained around 50 per cent, while technology stocks gained an amazing 54 per cent.

Comparing the growth of all blue-chip indices worldwide over the past year, only NASDAQ, the US technology stock market, with its 50 per cent gain outshone the annual gain of the Dax. The standard American stocks summarized in the Dow Jones index increased by an average of 26 per cent, while Euro-Stoxx-50, which comprises the most important stocks in



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Price	2,92
Date	06.02.03
SID	700 890

the euro area, achieved an annual gain of around 15 per cent. Positive influences on stock markets included the first signs of an economic recovery in the USA and the hopes for an upturn in Germany. Stock markets were also calmed down by the speed of the war in Iraq.

With regard to the 2004 stock market year, a large number of analysts are propagating cautious optimism. Financial experts are forecasting a rise by up to 10 per cent for the Dax and an average rise of 2 per cent for the Dow Jones. The prospects for price increases are particularly good for the first half of the year, during which we may be in for some positive surprises as far as published company profits and forecasts are concerned. One driving force behind an enduring upwards trend on global stock markets is the expectation that the economy will continue to recover. The main risks that economists perceive for stock markets are posed by possible rises in key interest rates. If the euro remains as strong as it is, this will most likely put an additional strain on the European region. Other stumbling blocks named by analysts include the high price for crude oil and – in the event of an expanding economy – also substantial price increases for other raw materials.

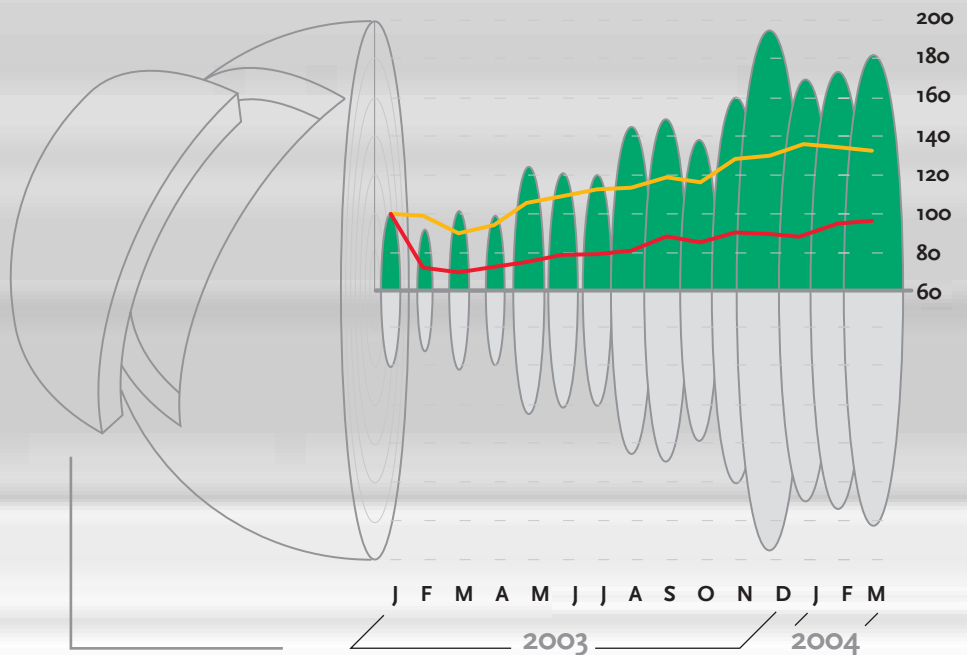
Share price and market capitalization – increase by more than 100 per cent

Having started at EUR 3.65, the REALTECH share price reached its interim peak of EUR 3.80 as early as January 3, 2003. After this, it initially dropped in conjunction with the general development of stock

markets and was listed at the end of January at its annual low of EUR 2.80. Over the further course of the year, however, the REALTECH share price displayed a clear and consistent increase. Slight fluctuations often result from profit-taking. On November 27, the share was listed at EUR 9.09, which was not only its annual high but also its highest price since July 2001.

Share price index

REALTECH share █
 Prime Software █
 TecDax █



1727



Braun's sprocket wheel machine
 Anton Braun, a court clock maker from Vienna, creates the first working sprocket wheel machine (four-operation computer). See page 20.

1805



Punch card system
 Joseph-Marie Jacquard invents the punch card system for mechanic looms – a technique that is later used to control numerous computers into the 20th century.



The REALTECH share price fell slightly in December, ending the year 2003 at a value of EUR 7.40. This meant that the REALTECH share price increased by more than 100 per cent year on year. Moreover, the share price developed much better than the two relevant comparative indices, TecDax and Prime Software. Market capitalization on December 31, 2003 amounted to EUR 38 million, which corresponds to 86 per cent of book equity (December 31, 2002: 43 per cent).

Active financial communication

On May 15, 2003, REALTECH AG held its fourth regular stockholder meeting. As in previous years, this was held in the Palatin convention and culture center in Wiesloch. At the event, with the motto “2002 – a year of stabilization”, the company’s Executive and Supervisory Boards were able to welcome 160 stockholders and guests, representing more than 53 per cent of the share capital. All items on the agenda – including giving discharge to the Executive and Supervisory Boards for

fiscal year 2002, electing an auditor, and amendments to the company’s articles of association – met with clear majorities.

The much more positive mood on stock markets also became apparent to REALTECH in the year under view in the form of a general rise in the interest shown by analysts and the financial press, as well as institutional and private investors. Not only the number of inquiries increased compared to 2002. The company also saw an increase in the frequency of

Basics

Market segment	Prime Standard
Date of issue	April 26, 1999
Security identification no.	700 890
Exchange ID	RTC
Issue price	54,00 EUR

Shares and stock options of the issuer and members of executive bodies as of December 31, 2003

Issuer	
REALTECH AG	16,286 treasury stock
Executive Board	
Daniele Di Croce	885,500 shares
Michael Knopp	3,000 shares
	25,750 stock options
Supervisory Board	
Jürgen B. Harder	– shares
Dieter Matheis	– shares
Richard Roy	– shares
Rainer Schmidt	885,500 shares
Norbert Schwerber	– shares
Peter Stier	745,500 shares

Key figures

	2003 EUR	2002 EUR
Earnings per share	(0.06)	0.06
Cash flow per share	0.86	0.85
Shareholders' equity per share	8.65	8.72
Highest share price	9.09	9.04
Lowest share price	2.80	1.90
Share price at year end	7.40	3.65
Market capitalization at year end	38 million	19 million
Number of shares at year end	5,092,452	5,092,452



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appointments with key players. In the context of a series of individual interviews, as well as at its analyst and balance sheet conference, REALTECH maintained and built on personal contacts with funds managers and financial analysts. Private investors were also able to enjoy maximum transparency and openness, with all questions being answered quickly and extensively – as always via an investor hotline and by e-mail.

As a member of Deutscher Investor Relations Kreis (D.I.R.K.) e.V., REALTECH AG is planning to further intensify investor relations activities in fiscal year 2004. In the future, the company will make better use of road shows in order to actively pursue communications with financial markets and get more investors interested in REALTECH shares. In addition to this, the management has plans to convey the Group's strategies, strengths, and prospects more in direct contact with investors.

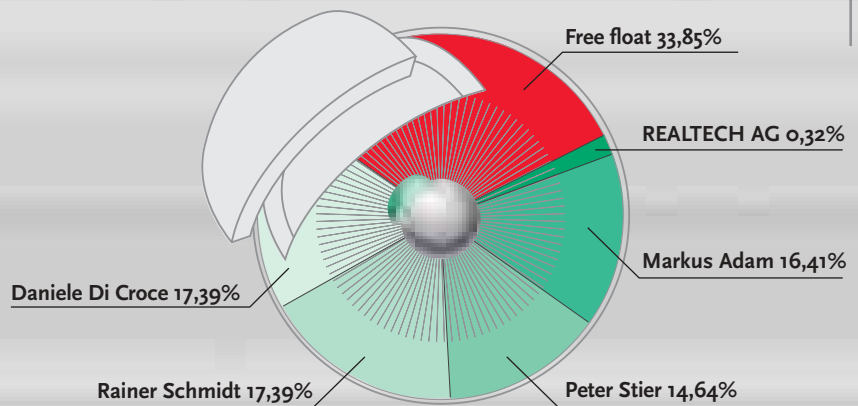


Online communication – investor relations on the Internet

With regard to achieving financial communication that is geared to transparency and open dialog, REALTECH attaches particular importance to its Investor Relations website, www.realtech.de/investors, which provides information of relevance for decision-making. The latest price data and charts can be accessed without difficulty, as can analyst assessments, the most important key figures, the financial calendar, and easily

understandable glossaries on the stock market and technology. One section of the company's internet site is dedicated to the topical issue of corporate governance. It goes without saying that the Investor Relations department at REALTECH AG will continue to be at the disposal of all stockholders and interested parties to answer individual questions personally – either over the phone (+49 6227 837 500), by e-mail (investors@realtech.de), or in the context of individual interviews.

Shareholder structure of REALTECH AG



1820



The Arithmometer
Thanks to improved precision mechanics and a sophisticated design, this stepped-wheel calculator created by Thomas de Colmar was the first to be suitable for industrial production (18.000 items), making calculating machines affordable for the first time.

1822



Charles Babbage
Charles Babbage designs a difference engine to calculate logarithms and begins working on his "Analytical Engine" based on the concept of a programmable universal punch card computer.



The age of sprocket wheel calculating machines



Calculating machines designed by

Braun (front) and Schuster (back)



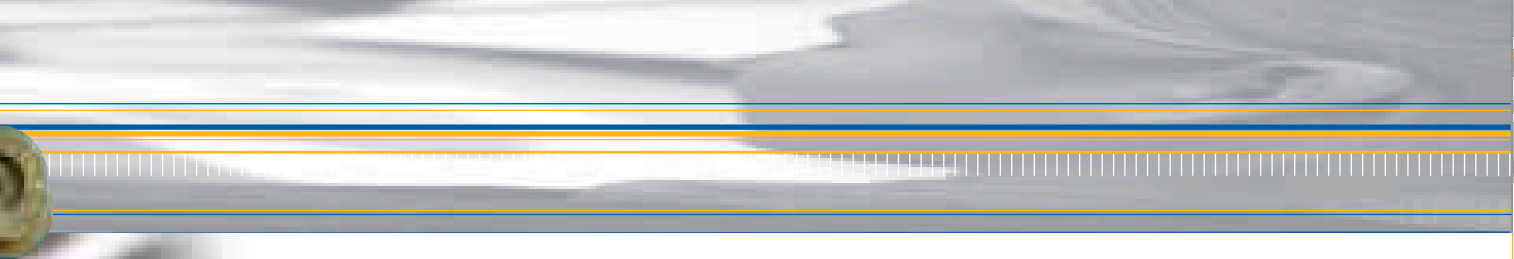
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- Although the mental groundwork had already been done by G.W. Leibniz, he and other inventors had not been able to get their amazing ideas to work exactly as they envisaged. This now became possible thanks to the fact that precision mechanics had been perfected.
- It is therefore no surprise that the first four-operation calculating machines to run completely smoothly were not actually designed by mathematicians but by watchmakers. One such watchmaker was Anton Braun from Swabia, who used the principle of Leibniz's sprocket wheel to design an "arithmetic machine" with which the operations of "addition, subtraction, multiplication, and division could be carried out with ease even by people who had not learnt how to perform such calculations themselves".
- Despite the fact that some computers – such as the one by Schuter illustrated here (back, approx.1820) – were still built based on the stepped-wheel principle, these took too long to make and the price of 20,000 florins – unimaginable at the time – was too high for them to establish themselves. The future therefore belonged to the sprocket wheel, which remained the predominant principle for the computers put to general use right into the 1950s.

Solutions

1725





Corporate Governance



German Corporate Governance Code

The term "corporate governance" stands for responsible company management and control aimed at creating value in the long term. Essential aspects of effective corporate governance include efficient cooperation between the Executive and Supervisory Boards, consideration of stockholder interests, as well as open and transparent corporate communication.

In view of the fact that this issue is becoming more and more important, the Federal Ministry of Justice created the Government Commission on the German Corporate Governance Code in 2001. The members comprise institutional investors, managers and members of the supervisory boards of listed stock corporations, employee representatives, academics, stock market representatives, and auditors. The first version of the code developed by the commission was published on February 26, 2002. The German Corporate Governance Code aims to make the existing rules in company management and monitoring transparent for both national and international investors.



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The aim of the code is to increase people's trust in the management of German companies. It addresses all essential – in particular international – points of criticism towards the German corporate setup. These are a lack of orientation towards stockholder interests, a lack of transparency in German company management, the dual corporate setup with a Executive Board and Supervisory Board, the lack of independence of German Supervisory Boards, and the limited independence of auditors.

On May 21, 2003 the commission decided to further develop the German Corporate Governance Code. The code is a "code of best practice" and not a law. It acquires legal standing in the form of a self-imposed declaration of commitment. It is based on the law currently applicable in Germany. In the descriptions of individual points, the focus is on easy comprehensibility. At the same time, the code makes no claim to portray the applicable laws comprehensively or to include all relevant aspects. In as much, the code should be treated as a supplement to the existing rules.

Germany has taken a new road with its rules regarding transparency for investors. As a result of self-organization in the context of a code containing internationally recognized standards for responsible management, each individual company has entered into a significant self-imposed commitment. This gives businesses an opportunity to shape the underlying conditions themselves by creating transparency and committing themselves to fair treatment of investors. They do not have to be forced to do so by the legislator. For those involved in capital markets, the code is a yardstick defined by business and industry representatives on the Corporate Governance commission as a standard for good, responsible corporate management.

General Meeting

Not only the company is responsible for implementing the code. Co-determination of stockholders is also necessary. The General Meeting is the body which represents stockholders. It is where stockholders participate in the fundamental decisions of REALTECH AG. Usually, stockholders meet annually in the first five months of each fiscal year. The Annual Meeting reaches binding decisions on issues such as appropriation

of net profits or giving discharge to the Executive and Supervisory Boards, and elects the auditor. In addition, it has the sole right to change Articles of Association and decide on measures that will change the company's capital. The Chairman of the Supervisory Board leads the Annual Meeting.

Supervisory Board

The General Meeting elects the six-person Supervisory Board of REALTECH AG. The members of the Supervisory Board have the tasks of advising the Executive Board on governing the company and monitoring its activities. It is involved in decisions of substantial significance for the company. In the context of the company's financial statements, the Supervisory Board reports to stockholders. This body is free to organize committees to focus on specific issues. For instance, the Supervisory Board of REALTECH AG has formed two committees. One is a personnel committee with Dieter Matheis as chairman and Rainer Schmidt and Peter Stier as additional members. In addition, there is the accounting audit committee, which has Norbert Schwerber as chairman and Dieter Matheis and Richard Roy as additional members.

1854

The binary system

George Boole publishes "The Mathematical Analysis of Logic", in which he provides the first description of the binary system (Boolean algebra) and provides the computer with its own "thinking model" (the same one that is used today).

1884

The punch-card tabulation machine

Herman Hollerith submits a patent for a punch-card tabulation machine, which becomes the first exchangeable mobile data medium.



Executive Board

The Supervisory Board plays a key role in appointing the Executive Board. It determines the number of members and appoints both the regular and deputy Executive Board members. The Supervisory Board also nominates a member of the Executive Board to become CEO as well as a deputy. In addition, the Supervisory Board approves the Executive Board's standing orders. The Executive Board is made up of one or more individuals. It is responsible for managing the company's business in accordance with applicable law, the company's Articles of Association, and the company's standing orders. The members of the Executive Board are exempt of the restrictions in § 181 of the German Civil Code (self-dealing).

The principles of corporate governance include not only the relevant governing bodies such as the Annual General Meeting and Supervisory Board but also these bodies' involvement in accounting or the management's risk management and a smooth flow of information.

Accounting

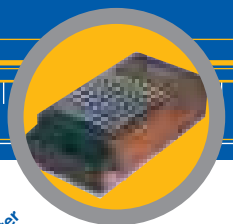
The REALTECH Group bases its accounting on United States Generally Accepted Accounting Principles (US GAAP). As for its annual financial

statements, however, REALTECH follows the rules of the German Commercial Code (HGB). Both financial statements are verified by an independent auditing company. The auditor is selected by the Annual General Meeting in accordance with the German Stock Corporation Act. The account auditing committee issues the audit assignment, defines the points on which the audit is to focus, and determines the audit fee. More detailed information on essential accounting standards can be found on page 54 (Management Report) and on page 70 (Consolidated Financial Statements) of this annual report.

Transparency

In view of the fact that clear communication is a key factor in using the code, REALTECH provides stockholders, financial analysts, the financial press, stockholder associations, and any interested members of the public with regular reports on the latest events concerning the company. When distributing information, REALTECH applies the principle of equality, informing everyone of any news at the same time – be they financial analysts, institutional investors, or stockholders. Thus, publication dates for the company's annual report and quarterly reports, as well as dates for General Meetings can

1885



The Comptometer
The first computer with keyboard input
is created to make computers
more user-friendly. See page 28.



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be found under the Investor Relations – Financial Calendar menu option at www.realtech.de/investors and are available to everyone. Whenever there is any news that could have a substantial effect on the REALTECH share price, this is published in an ad-hoc announcement.

Risk management

The risk management system, part of the company's overall planning, control, and reporting process, defines principles, guidelines, processes, and responsibilities with a view to identifying risks at an early stage. Risk management revolves around reliable information on the company's financial situation, for internal and external use. Only in this way can we ensure that the company management recognizes potential risks at an early state and is able to implement appropriate counter-measures.

For example, the Chairman of the Supervisory Board maintains regular contact and exchange with the Executive Board in order to discuss not only strategy and business development but also questions relating to risk management. The REALTECH Group has a risk management system that accommodates the company's global orientation. Details are provided on page 64 (Management Report) of this annual report.

Compulsory disclosure of directors' dealings

Following the enactment of the Fourth Financial Markets Promotion Act on July 1, 2002, the members of REALTECH AG's Executive and Supervisory Boards have been obligated, in accordance with § 15a of the Securities Trading Law (Wertpapierhandelsgesetz, WpHG), to report purchases and sales of REALTECH shares. In addition to reporting buy and sell transactions for REALTECH shares, it is also necessary to report other securities transactions that are related to REALTECH shares (for instance the purchase or sale of warrants on REALTECH shares). Reporting is also necessary for securities transactions by spouses, registered civil partners, or relations in the first degree.

Section 6.6 Paragraph 2 of the German Corporate Governance Code requires the shares held by members of the Executive and Supervisory Boards to be listed in the notes of the company's consolidated financial statements. Members of the Executive and Supervisory Boards are obligated to disclose their shareholding if it is directly or indirectly greater than 1 per cent of the shares issued by the company. On the editorial deadline of March 2004 for this annual report, REALTECH AG had no transactions that required reporting.

Compliance declaration for the German Corporate Governance Code

The German Corporate Governance Code includes rules with various degrees of obligation. In addition to describing the valid stock corporation law, it also contains recommendations that companies are not compelled to follow. However, they are then obligated to disclose this each year. This is defined by §161 of the German Stock Corporation Act, which compels the Executive and Supervisory Boards of a stock corporation listed on the stock market to declare each year where they have deviated from the recommendations. Moreover, the code contains conditions that companies can refrain from following without having to disclose this.

REALTECH does not intend to create a corporate governance code of its own as there are no industry-specific or company-related requirements that make this necessary. The Executive and Supervisory Boards submitted the first compliance declaration on November 14, 2002 and the second on September 10, 2003, based on the recommendations of the Government Commission on the German Corporate Governance Code in accordance with §161 of the German Stock Corporation Act with the following wording:

1926



The magnetic tape
In Germany, Fritz Flenner develops the magnetic tape for the purpose of recording data. It was now possible to save large quantities of data in a small space but the saved data could only be accessed in the order in which it was recorded.



”REALTECH AG complies with the recommendations of the Government Commission on the German Corporate Governance Code (dated May 21, 2003) with the following exceptions:

No suitable deductible has been agreed to date for the D&O (directors and officers liability) insurance agreed for the Executive and Supervisory Boards (section 3.8 paragraph 2 of the code).

Reason: No deductible has yet been agreed for the existing D&O insurance for the Executive and Supervisory Boards. We believe that agreeing a deductible would not improve the motivation and sense of responsibility with which the members of the Executive and Supervisory Boards of REALTECH AG go about the tasks and functions assigned to them. In addition, this insurance focuses on safeguarding the company’s essential own risks, not on financial protection for board members.

Moreover, it is a group insurance policy that also extends to leading REALTECH employees. We do not consider it appropriate to distinguish between board members and company employees.

Up to now, remuneration of members of the Executive Board has not been disclosed individually in the notes of the company’s consolidated financial statements (section 4.2.4 of the code).

Reason: due to the fact that the remuneration of the Executive Board has been very low and is therefore hardly relevant, the company has up to now refrained from disclosing it individually in the notes of its consolidated financial statements.

Members of the Supervisory Board do not as yet receive performance-based remuneration (section 5.4.5 paragraph 2 of the code). Up to now, remuneration of members of the Supervisory Board has not been shown individually in the notes of the consolidated financial statements, broken down by components.

Remuneration paid by the company to members of the Supervisory Board and benefits granted for personal services – in particular consulting and negotiating services – have not been disclosed separately in the notes of the consolidated financial statements up to now, either (section 5.4.5 paragraph 3 of the code).

Reason: due to the fact that the remuneration of the Supervisory Board has been very low and is therefore hardly relevant, no special profit-based remuneration has been granted up to now and the company has therefore refrained from disclosing the remuneration.”

Insider trading rules

Trading in REALTECH shares is subject to the rules of the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin). One important task carried out by the BaFin is to supervise securities transactions, with the aim of ensuring that the German markets for securities and derivatives function in accordance with the Wertpapierhandelsgesetz (German Securities Trading Act). This forbids the use of insider knowledge or unauthorized spreading of insider information as doing so would undermine the trust of market participants in securities trade with equal chances for everyone.



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REALTECH employees are subject to the prohibition on insider trading. An appropriate memorandum is included in every employment contract worldwide. In addition to this, certain REALTECH employees must comply with particular restrictions relating to trading in REALTECH shares due to their position or the task they perform ("exercise window"). The relevant employees must acknowledge the fact that they are subject to primary insider information and recommendations and document this with their signature. The areas of the company in which employees are classified as primary insiders are listed on the company's website.

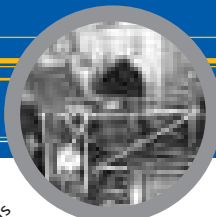


1928



The cathode ray screen
The Russian immigrant Vladimir Zworykin further develops Braun's ray tubes (CRTs) as a monitor. For technical reasons, however, they are still circular to begin with.

1938



Zuse's Z1
In Berlin, Konrad Zuse constructs his first program-controlled – mechanical – computer, the Z1. With a clock frequency of 1 Hz the computer needed ten seconds for an addition but a whole minute for a multiplication.