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**Financial information from ASSA ABLOY**  
will be published as follows:

**Interim reports**

January 1–March 31: May 5, 1999

January 1–June 30: August 9, 1999

January 1–September 30: November 8, 1999

Year-end report for 1999: February 9, 2000

Annual report for 1999: March 2000

**Annual reports and other reports may be ordered from:**

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**Welcome to the Annual General Meeting**

ASSA ABLOY AB (publ.), registered corporate number 556059-3575 will hold its Annual General Meeting on Wednesday, May 5, 1999, at 2:00 p.m. in Industrisalen, at Industrihuset, Storgatan 19, Stockholm.

**Who is entitled to participate in the Annual General Meeting?**

The right to participate in ASSA ABLOY's Annual General Meeting is limited to shareholders who are listed in the printout of the share register made on April 25, 1999, and who notify ASSA ABLOY AB of their intention to participate in the Annual General Meeting not later than 4:00 p.m. on Friday, April 30, 1999.

**How to register in the share register**

ASSA ABLOY AB's share register is maintained by the Swedish Securities Register Center (VPC AB). Only holdings registered in the owner's name are reported under the shareholder's name in the share register. To be entitled to participate in the Annual General Meeting, shareholders who have registered their shares in the name of a trustee must re-register the shares in their own names.

Shareholders who have registered their shares in the name of a trustee, should request the bank or stockbroker acting as trustee to temporarily register the shares for voting-right registration a few banking days prior to Friday, April 23, 1999.

**How to submit notice of intention to participate**

Notice of intention to participate in the Annual General Meeting may be submitted by mail to ASSA ABLOY AB, P.O. Box 703 40, SE-107 23 Stockholm, Sweden or by telephone: +46-(08)-698 85 70.

Notification must include the shareholder's name, personal identity number (registration number), address and telephone number, as well as information regarding the number of shares. Shareholders wishing to participate in the Annual General Meeting must submit notification of their intention to participate not later than 4:00 p.m. on Friday, April 30, 1999, when the notification period expires.

The Board of Directors and President propose that a dividend of SEK 2.50 per share is to be paid to shareholders for the 1998 financial year.

In addition, the Board proposes a share split corresponding to one share for four new shares (1:4).

# All units contributed to higher profit

- **Sales amounted to SEK 8,582 M (6,968)**, corresponding to an increase of 23 percent.

- **Profit after financial income and expense** increased by 39 percent, and amounted to SEK 748 M (537).

- **Earnings per share** increased by 43 percent to SEK 7.28 (5.09).

- **Cash flow before tax** amounted to SEK 1,023 M (841), corresponding to an increase of 22 percent.

- **Organic growth** of comparable units in local currency amounted to 6 percent (8).

- **Continued benchmarking**, coordination and transfer of know-how between units is providing the impetus for improved profits and cash flow.

- **Nine companies were acquired** during the year, of which three were in the United States, and one each in Germany, Mexico, Hong Kong, Poland, Romania and Canada. The major acquisitions are:

**Urbis**, the leading lock manufacturer in Romania, was acquired in April.

**Medeco**, the leading manufacturer of high security cylinders in the United States, was acquired in July.

**Securitron**, the leading American manufacturer of magnetic locks and electronic panic bars, was acquired in November.

In April, 49 percent of **Cerrajeras Scovil** was acquired in Mexico. ASSA ABLOY has an option to purchase the remaining 51 percent of the shares.

## ASSA ABLOY: summary

### Stable organic growth

- Higher Security trend.
- After market sales more than half the volume.
- Electromechanical products – cross sales – new markets.

### Increasing margins

- Improvements in each unit – benchmarking/know-how transfers.

### Cash flow even stronger

- Work flow and balance sheet rationalization.
- Goodwill amortization.

### Consolidation opportunities

#### – focus on EPS

- Fragmented industry – harmonization and R&D requirements lead to consolidation.
- Strong cash flow funds acquisitions.

## Strength based on traditions and visions

**E**arnings per share have increased more than eightfold since the company was first listed, and in 1998 the increase was 43 percent. Profit before tax increased to SEK 748 M and pro forma sales, including our most recent acquisition in Australia, now amount to more than SEK 10 billion. Cash flow before tax exceeded SEK 1 billion, which is a good testimonial to achievements throughout the Group.



The lock business has an unusually long history. Our oldest company dates back to 1645. There has always been a need for locks to protect lives, property and business operations and this need is constantly growing as vulnerability, property values and crime increase. There has been a high degree of creativity in this area, and there are considerable variations in the standards adopted in different countries. This restricts export possibilities. Local actors have dominated the scene, and most of them have not operated at the international level.

A lock company's sales normally show stable growth. Half the sales are often generated by existing installations. Our own installed base amounts to more than half a billion locks. A continuous need for better and safer lock products creates satisfactory growth. The demand for user-friendly products and fast emergency-exit features are important driving factors. Electro-mechanical products show the fastest growth, and it is essential that they are competitive at both the local and the global level. Many of these products are

based on advanced technologies but require adaptation to meet local requirements.

All lock companies were founded by families, many of which are still active. Extensive product portfolios and unique locks per door make considerable demands on product design, logistics and production processes. There are considerable differences between the various producers in terms of efficiency, and there is often substantial potential for improvement.

In this environment, we have seen interesting growth opportunities and taken the lead in an international consolidation process. Our development is based on stable organic growth, increasing margins by continuously learning from each other, benchmarking, and the exploitation of synergies – mainly in product development and production. Continuous capital rationalization and co-ordination of investments contributes to strong cash flow and increases opportunities for further acquisitions. We have achieved a leading position in the world, although our total market share is only 6-7 percent.

We have taken important steps in our development in the past year. Despite a weakened economy in many parts of the world, organic growth of 6 percent was achieved. All units report higher earnings and the strong cash flow during the year made it possible to implement five major acquisitions.

Our Finnish business has developed well, with growth of 8 percent. The door closer plant is now in full operation and is producing nearly half a million units. Exports to Russia came to a halt in August, and although there is evidently a need for good locks in Russia, it is difficult to assess developments in the immediate future.

New construction in the Swedish market is increasing slightly, after a historic low which lasted for several years. Organic growth is five percent.

The Norwegian units report growth of five percent. The merger of TrioVing and

Møller Undall has been successful and continues to generate satisfactory earnings growth. The Norwegian economy seems to be entering a weaker period but upgrading of security standards is expected to contribute to continued growth.

Ruko in Denmark shows growth of 3 percent, excluding the effects of the nationwide strike during the spring. Growth has been in line with the other Nordic countries. A stainless steel door hardware program, FUNXION, has been introduced with good growth potential for the entire Group.

FAB in the Czech Republic has developed well, both in terms of volume and earnings. Organic growth is 11 percent. The need for better locks is increasing steadily and the car lock unit is doing particularly well, with deliveries for all Skoda models.

There has been no growth in the institutions and large office segment covered by Ikon in Germany, after numerous projects in connection with reunification and the transfer of the capital to Berlin. Despite unchanged sales, the net margin reached the 10 percent level and is expected to rise further. The Dörrenhaus operations, which were recently acquired, have been considerably rationalized and unprofitable products have been phased out.

The UK units show good growth. The market seems to have weakened somewhat, although there is increasing demand for high security lock products.

Integration of the French units is proceeding better than expected. The motivation among the personnel in the units is high and earnings are developing faster than expected. During 1999, we should be able to achieve the original goal of an improved net margin of 2-3 percent. There is a clear potential for continued improvements. The volume increased by 3 percent, despite the phasing-out of unprofitable items and products not related to locks. During 1999, further products with sales of FFR 25-30 M will be phased out.

The North American business continues to develop well. Organic growth amounts to nine percent and the net

margin is increasing in all units. The restructuring implemented in recent years has led to a considerable reduction in working capital and shorter lead times. We do not see any clear indications of a weakening as yet, but assume somewhat lower growth in 1999. Earnings are expected to continue to improve.

VingCard, including Elsafe, shows an increase of eight percent, despite a weaker Asian market during the second half of 1998. Europe is currently the fastest growing market. After several years' strong volume growth, a rationalization project is now under way. This is expected to make an appreciable contribution to earnings.

Sales in Asia, excluding VingCard, increased an encouraging 32 percent during the year, despite the crisis in the area. During the present conditions it has been difficult to retain the right resources in the right place at the right time. We expect more stable conditions and continued growth in 1999.

We have made several important acquisitions during the year. The acquisition of Medeco enabled us to supplement our product portfolio with cylinders from the foremost manufacturer in the U.S. Medeco has an extensive installed base, with a share of after-market sales of over 70 percent. During the autumn, we acquired Securitron, the leading manufacturer of electro-magnetic locks in the U.S. The company has shown strong growth for many years and is also expected to be able to play an important part in the Group's operations in Europe. The integration of the two companies is proceeding according to plan and they are expected to achieve satisfactory growth and contribute to our earnings per share in 1999.

Urbis in Romania and 49 percent of Scovill in Mexico were also acquired in 1998. Urbis dominates its home market and reports a growing need for security products. Scovill has a strong position in Mexico and sales to Latin America are increasing.

We made an additional exciting and important acquisition at the beginning of 1999. We have reached agreement with EMAIL Ltd. regarding the acquisition of

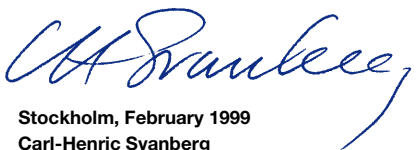
50 percent of the shares in Lockwood, Australia's leading lock manufacturer. We have an option to buy the remaining shares in three years' time. The company will be included in our management and benchmarking program from the start. Lockwood's sales amount to approx. AUD 170 M and profitability before net financial items is 7 percent. We expect an improvement potential of at least 4-5 percent. The company will strengthen our position in Asia considerably.

So far, most of the improvements in our earnings have been due to substantial rationalization in the units concerned. There is clearly scope for continued improvements in this area.

At the same time, we are making intensive efforts to develop our group strengths. Lock companies are normally strong in certain areas but lack products in others. However, all products are principally available within the group, and there are many opportunities for growth. Furthermore, in many countries there are product areas where the security level has been neglected and needs have not yet been identified. One example is emergency exit fittings in the Scandinavian countries.

A third of our products are global today, and include common and often highly technological components, many of them from the electro-mechanical area where development and production are being coordinated step by step. Other technical development is coordinated by the Group's Product Council. Coordination is also increasing in purchasing, an area with an interesting savings potential.

All in all, we are moving towards an exciting future with many challenges and opportunities. Our strong position, the security-driven growth, the rationalization potential and a continued consolidation of the industry all provide opportunities for continued favorable development of earnings per share.



Stockholm, February 1999  
Carl-Henric Svanberg

## GROUP DEVELOPMENT:

### Statements of income

	1998	1998	1997	1996
	EUR M <sup>1)</sup>	SEK M	SEK M	SEK M
Net sales	904	8,582	6,968	4,958
Cost of goods sold	-576	-5,463	-4,496	-3,259
Gross profit	328	3,119	2,472	1,699
Expenses	-212	-2,018	-1,662	-1,183
<b>Operating result before goodwill amortization</b>	<b>116</b>	<b>1,101</b>	<b>810</b>	<b>516</b>
Goodwill amortization	-15	-138	-103	-56
<b>Operating result</b>	<b>101</b>	<b>963</b>	<b>707</b>	<b>460</b>
Net financial items	-24	-228	-179	-122
Share in earnings of associated companies	2	13	9	7
<b>Result after financial income and expenses</b>	<b>79</b>	<b>748</b>	<b>537</b>	<b>345</b>
Taxes	-23	-212	-183	-97
Minority interest	-1	-10	-2	0
<b>Net result of the year</b>	<b>55</b>	<b>526</b>	<b>352</b>	<b>248</b>

### Balance sheets

	1998	1998	1997	1996
	EUR M <sup>1)</sup>	SEK M	SEK M	SEK M
Intangible fixed assets	281	2,668	1,969	1,108
Tangible fixed assets	293	2,778	2,559	1,662
Financial fixed assets	68	648	419	100
Inventories	141	1,339	1,179	849
Accounts receivable	150	1,427	1,261	693
Other noninterest-bearing current assets	23	221	179	135
Liquid assets	15	138	126	137
<b>Total assets</b>	<b>971</b>	<b>9,219</b>	<b>7,692</b>	<b>4,684</b>
Shareholders' equity	286	2,715	2,317	1,408
Minority interests	3	32	24	9
Interest-bearing provisions	68	650	556	574
Interest-bearing long-term liabilities	381	3,609	2,924	1,626
Other noninterest-bearing long-term liabilities	52	491	421	160
Interest-bearing current liabilities	14	133	89	22
Other noninterest-bearing current liabilities	167	1,589	1,361	885
<b>Total shareholders' equity and liabilities</b>	<b>971</b>	<b>9,219</b>	<b>7,692</b>	<b>4,684</b>

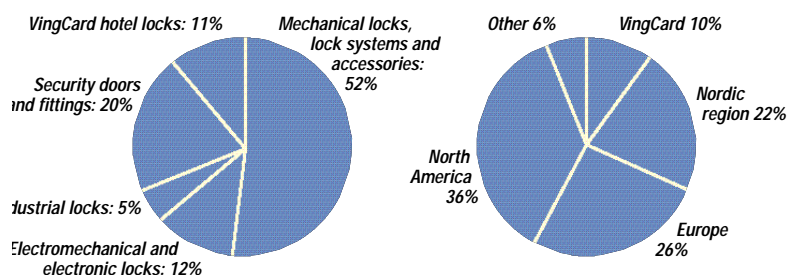
1) 1 EUR = 9,4954 SEK.

#### Sales per product group

total SEK 8,582 M

#### Sales per geographical area

total SEK 8,582 M



### Sales per organizational unit<sup>2)</sup>

	1998	1998	1997	1996
	EUR M <sup>1)</sup>	SEK M	SEK M	SEK M
Sweden	94	887	841	750
Finland	85	811	744	620
Norway	54	513	531	346
Denmark	32	301	288	268
Germany	61	583	533	501
France	158	1,504	844	-
United Kingdom	28	266	236	168
Czech Rep./Slovakia	20	186	68	-
United States	307	2,916	2,402	1,872
Hotel security, VingCard	100	952	794	681
Elimination for internal sales	-35	-337	-313	-248
<b>Total</b>	<b>904</b>	<b>8,582</b>	<b>6,968</b>	<b>4,958</b>

2) Including exports from each market.

### Sales per country<sup>2)</sup>

	1998	1998	1997	1996
	EUR M <sup>1)</sup>	SEK M	SEK M	SEK M
United States	337	3,198	2,652	2,113
France	138	1,309	735	30
Sweden	69	658	627	583
Germany	56	528	475	458
Finland	53	505	471	402
Norway	51	489	514	339
United Kingdom	33	316	273	214
Denmark	32	308	287	254
Canada	18	171	122	100
Czech Rep./Slovakia	16	155	57	5
Belgium	14	134	95	52
The Netherlands	9	80	68	35
China and Hong Kong	8	78	62	65
Asia (excl. China, Hong Kong and Japan)	7	63	93	55
Africa	6	58	39	7
Italy	6	52	40	15
Spain	5	48	39	35
Middle East	4	38	34	11
Baltic states	4	36	29	19
Switzerland	4	35	28	25
Russia	3	31	27	17
Australia	3	30	35	29
Poland	3	26	17	13
Japan	1	13	24	14
Other countries	24	223	125	68
<b>Total</b>	<b>904</b>	<b>8,582</b>	<b>6,968</b>	<b>4,958</b>

2) Sales to customers in each country.

## Key figures

	1998	1997	1996	1995	1994 <sup>1)</sup>
Net sales,SEK M	8,582	6,968	4,958	3,457	3,540
Gross margin, %	18.5	16.8	14.6	12.6	10.0
Operating margin before goodwill amortization, %	12.8	11.6	10.4	7.5	4.9
Result after financial income and expenses,SEK M	748	537	345	213	76
Profit margin, %	8.7	7.7	7.0	6.2	2.1
Cash flow after tax,SEK M	728	676	372	345	139
Net investments,SEK M	335	274	163	187	139
Total assets,SEK M	9,219	7,692	4,684	2,470	2,850
Shareholders equity, SEK M	2,715	2,317	1,408	928	776
Net debt,SEK M	4,237	3,442	2,085	659	1,055
Capital employed,SEK M	7,126	5,909	3,640	1,714	2,047
Equity / assets ratio, %	29.8	30.4	30.3	37.9	27.7
Interest coverage,times	4.2	3.8	3.6	4.8	1.9
Debt / equity ratio	1.56	1.49	1.48	0.71	1.36
Return on shareholders' equity after tax, %	20.9	18.9	21.2	16.9	7.4
Return on capital employed before goodwill amortization, %	25.9	24.6	24.9	15.4	9.4
Return on capital employed, %	15.1	15.2	17.8	14.3	8.2
Earnings per share after tax and full conversion,SEK	7:28	5:09	3:86	2:34	0:87
Shareholders'equity per share,after full conversion,SEK	41:15	35:82	21:75	15:87	12:70
Number of shares,thousands	71,076	70,732	64,311	53,592	53,592
Number of shares after full conversion,thousands	73,862	73,862	66,349	55,421	53,592
Average number of employees	10,545	8,088	6,317	4,274	4,703

1) The comparative figures for 1994 are reported pro forma, and calculated using standard tax.

## Definitions

**Gross margin:** Operating result before depreciation as a percentage of sales.

**Operating margin before goodwill amortization:** Operating result before goodwill amortization as percentage of net sales.

**Profit margin:** Result after net financial items as a percentage of sales.

**Cash flow:** Based on the cash flow analysis,see page 52.

**Net debt:** Interest-bearing liabilities less interest-bearing investments.

**Capital employed:** Total assets reduced by noninterest-bearing current liabilities including deferred tax liability.

**Equity/assets ratio:** Shareholders' equity including minority as a percentage of total assets.

**Interest cover:** Result after net financial items in relation to financial expenses.

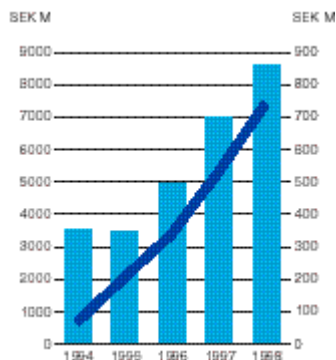
**Return on shareholders' equity after taxes:** Result after net financial items,less full tax,in relation to average shareholders' equity after full conversion.

**Return on capital employed before goodwill amortization:** Result after net financial items plus financial expenses and goodwill amortization in relation to average capital employed excluding goodwill.

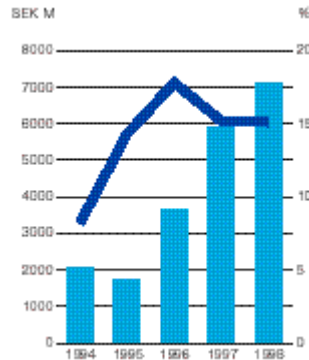
**Return on capital employed:** Result after net financial items plus financial expenses in relation to average capital employed.

**Earnings per share after taxes:** Result after net financial items, less full tax,divided by the average number of shares after full conversion.

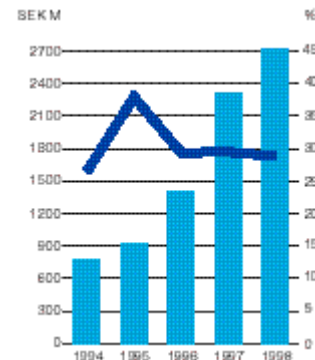
Sales: ■  
Result after financial income and expenses: ■



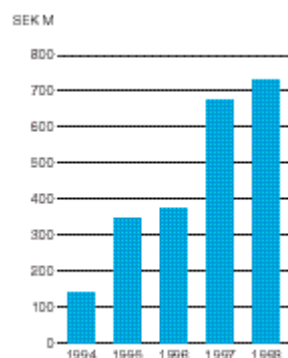
Capital employed: ■  
Return on capital employed: ■



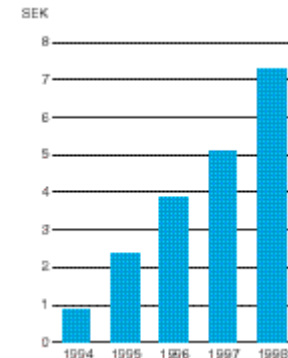
Shareholders' equity: ■  
Equity / asset ratio: ■



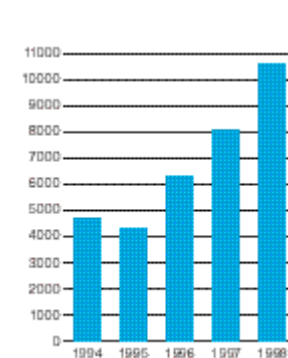
Cash flow after tax



Earnings per share after tax after full conversion



Average number of employees



# Continued strong share trend

**A**SSA ABLOY AB has been listed on the Stockholm Stock Exchange since November 8, 1994. In October 1995, the share was moved to the A list. The price of the ASSA ABLOY share rose by 47.6 percent in 1998. During the same period, the Stockholm Stock Exchange's general index rose by 9.8 percent. The closing price at year-end was SEK 310, corresponding to a market capitalization of SEK 22,006 M. Including all shares due for conversion, it is estimated that the market capitalization was SEK 22,897 M. The number of shareholders at year-end was approximately 8,800. Institutional

investors, excluding the main shareholders, represent about 50 percent of the capital. Non-Swedish investors, including Metra Oy Ab, account for 61 percent of the capital.

During the year, a total of 16 million shares were traded, corresponding to an average of approximately 67,000 shares for each trading day and corresponding to 23 percent of the shares outstanding.

### Share capital

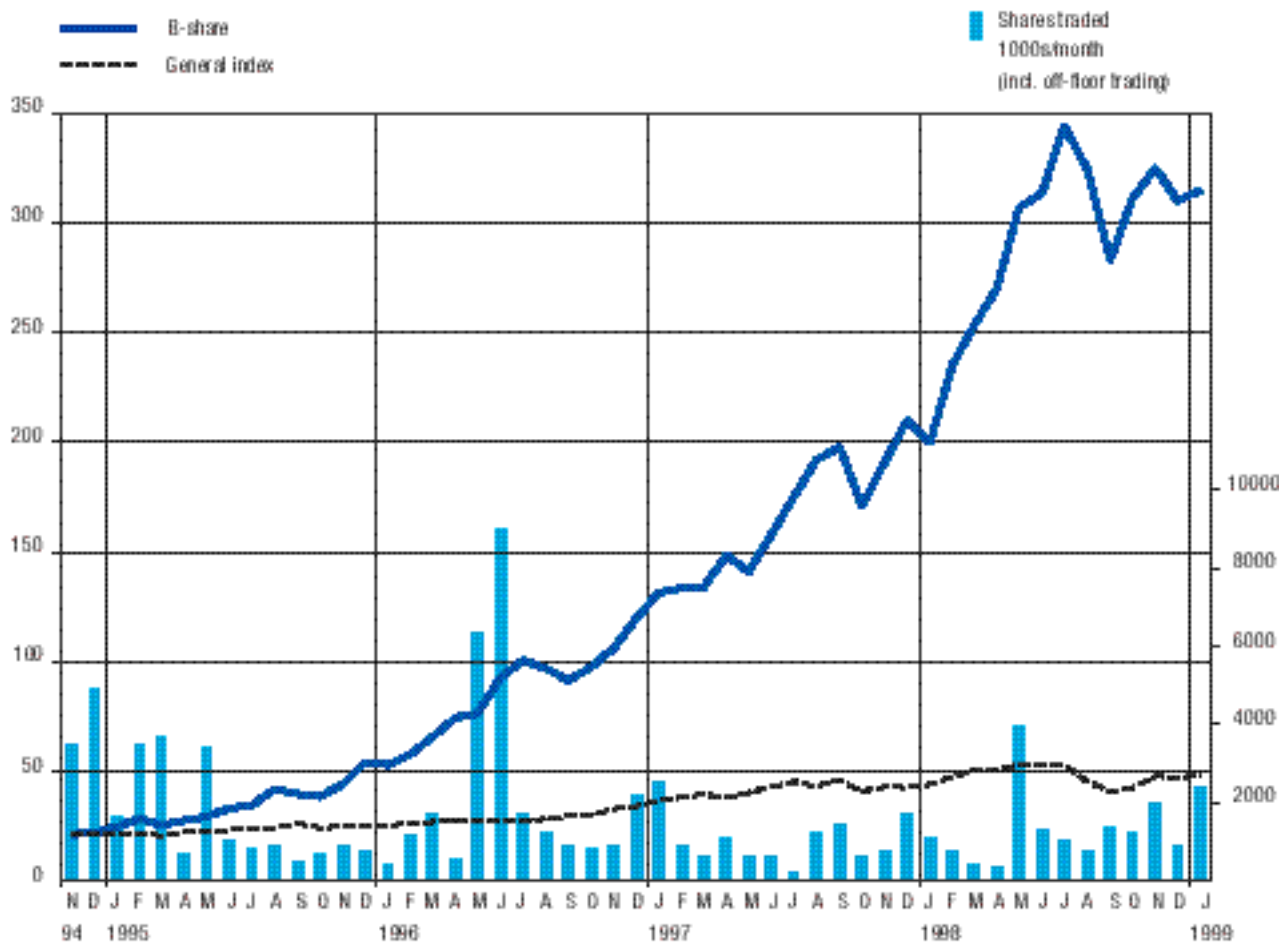
ASSA ABLOY's share capital amounts to SEK 71 M, distributed among 4,190,412 Series A shares and 66,885,571 B shares.

All shares have a par value of SEK 1.00 and provide the holders with equal rights to the Company's assets and earnings. Each Series A share entitles a holder to 10 votes, while B shares provide one vote.

### Convertible debentures for personnel

In 1995, convertible debentures were offered to employees in the ASSA ABLOY Group. About 400 employees participated in the first issue in 1995. The debenture loan amounted to SEK 75,004,375 and extends from June 29, 1995, to June 30, 2000. Conversion into Series B shares is in progress and rights may be exercised in the

## ASSA ABLOY AB's share trend





period from July 1, 1998 to July 15, 2000. During 1998, a request for the conversion of debt instruments with a par value of SEK 12,275,981 was submitted. The Swedish Patent and Registration Office has registered 343,865 of these shares. On full conversion at an exercise price of SEK 35.70. There will be a total of 72,833,080 shares.

A second convertible debenture loan was issued during 1997. A total of 1,400 persons participated in the offering. This debenture loan amounts to SEK 250,000,000 and extends from December 8, 1997 to December 2, 2002. Conversion may be exercised for Series B shares from December 1, 2000 to November 15, 2002. At full conversion, and an exercise price of SEK 243, an additional 1,028,806 shares will be created.

#### Dividend and dividend policy

The Board of Directors and President propose that SEK 2.50 per share be paid as a dividend to shareholders for the 1998 financial year, corresponding to a direct return on the Series B share price at December 30, 1998, of 0.8 percent. The aim is that, in the long term, the dividend should correspond to approximately one-third of ASSA ABLOY's average earnings after net financial items and standard tax, but always taking into account ASSA ABLOY's long-term financial requirements.

## Data per share

SEK/share	1998	1997	1996	1995 <sup>1)</sup>	1994
Earnings after 28% standard tax	8:15	5:56	3:88	2:47	0:87
Earnings after full tax method	7:28	5:09	3:86	2:34	–
Dividend <sup>2)</sup>	2:50	1:75	1:21	0:87	–
Dividend, % <sup>3)</sup>	31,0	31,5	31,2	35,2	–
Direct yield, % <sup>4)</sup>	0,8	0,8	1,0	1,6	–
Share price at end of period	310:00	210:00	124:00	56:05	23:05
Highest share price	376:00	217:00	126:50	64:18	30:74
Lowest share price	200:00	121:50	52:40	22:15	18:98
Shareholders' equity	41:16	35:82	21:75	15:87	12:70
Number of shares (1,000s) <sup>5)</sup>	73 862	73 862	66349	55421	53592

1) 1995 adjusted for new issues.

2) Proposed dividend.

3) Dividend as a percentage of earnings per share after 28% standard tax.

4) Dividend as a percentage of the share price at the end of the period.

5) After full conversion.

## Share capital

Year	Transaction	Share capital			
		A-shares	C-shares	B-shares	*SEK
1989			20,000		2,000,000
1994	100:1 split			2,000,000	2,000,000
1994	Bonus issue				
1994	Non-cash issue	1,746,005	1,428,550	50,417,555	53,592,110
1996	New share issue	2,095,206	1,714,260	60,501,066	64,310,532
1996	Conversion of C-shares into A-shares	3,809,466		60,501,066	64,310,532
1997	New share issue	4,190,412		66,541,706	70,732,118
1998	Converted debentures			344,000	71,076,118
2000	Unconverted debentures			1,756,962	72,833,080
2002	Unconverted debentures			1,028,806	73,861,886

\* 1 SEK per share – balanced number of shares.

## Ownership structure

Data is based on the share register as of Dec.30,1998 and subsequent changes known to the company.

Owner	A-shares	B-shares	Capital %	Voting rights %
Metra Oy Ab	2,304,726	15,405,234	29.1	38.1
Janus Capital Funds	-	7,618,741	10.7	7.0
Investment AB Latour with subsidiaries	-	5,568,500	7.8	5.1
SPP	-	3,055,390	4.3	2.8
Melker Schörling + family and companies	330,000	2,676,966	4.2	5.5
Nordbanken Unit Trusts	-	2,408,700	3.4	2.2
Robur Unit Trusts	-	1,823,354	2.6	1.7
SÅKI	1,555,686	124,150	2.4	14.4
Trygg-Hansa Insurance	-	1,198,157	1.7	1.1
Carl-Henrik Svanberg + family and companies	-	1,162,640	1.6	1.1
Other shareholders with more than 50,000 shares	-	2,032,7018	28.6	18.7
Shareholders with 501–50,000 shares	-	4,699,984	6.6	4.3
Shareholders with up to 500 shares	-	816,737	1.1	0.8
Total number	4,190,412	66,885,571	100.0	100.0

# A fragmented market is being transformed

**A**SSA ABLOY is the world's largest lock company, with projected annual sales in 1999 of approximately SEK 10 billion. Its share of a fragmented global market is 6–7 percent. The Group is based on the Nordic region, with market-leading positions in all the Nordic countries. ASSA ABLOY also has strong positions in France, Germany, Belgium, United Kingdom, the Czech Republic, Slovakia and Romania. The Group is the second-largest player in the North American market.

Through VingCard, ASSA ABLOY is a world leader in the electronic hotel lock sector.

The Group operates in the following product segments: construction locks, industrial locks, door and window hardware and other accessories, electro-mechanical locks and hotel locks. In the United States, ASSA ABLOY is also active in the security door product segment, and in automobile locks in the Czech Republic.

ASSA ABLOY was created as a result of the spin-off of ASSA to Securitas AB's shareholders as a dividend in November 1994. Abloy was subsequently acquired from Metra Oy Ab through a new issue of shares. As a result, Metra Oy Ab became the majority shareholder in ASSA ABLOY AB.

## Market

The global lock market is fragmented and comprises many small and medium-size companies. Many of these have extremely strong positions in their local markets, with long histories and strong brands. This primarily applies to markets in Europe and North America. On the whole, established standards and strong local

brands do not exist in other parts of the world. There are only a few multinational players, and their joint share of the world market is relatively small. It is estimated that total lock market sales are approximately SEK 150 billion.

Strong local brand names and standards, long product lives and a large number of installed locks also contribute to stability. This also applies to proximity to national distributors and customers, customized solutions and brand loyalty. Consequently, the after-sales market accounts for about 50 percent of sales, which reduces dependence on the cyclical construction industry.

## Growth factors

### ● *Trend towards higher security*

The need to protect information and property is increasing everywhere in modern society. Many people feel insecure in an increasingly anonymous society with greater criminality. Moreover, today's high-tech society is increasingly vulnerable to breakdowns, and the need to safeguard information and knowledge is becoming increasingly important. As a result, the need for better lock products is increasing steadily, in applications ranging from simple balcony doors to computer rooms. By continuously developing and marketing products that meet these needs, ASSA ABLOY is establishing a basis for stable long-term organic growth which is 2–3 percent higher than that of the GDP.

### ● *Electronic aspects*

Increased security requirements are accompanied by demands for convenience and safe evacuation in the event of fire, for example. More sophisticated functions are required which are increasingly solved

by electronic or electromechanical means. Sales of electromechanical products are growing more rapidly than the market as a whole. The development costs are clearly higher than for traditional lock products and thus require a critical mass in which the size of a company becomes an important competitive weapon.

While electromechanical solutions are of a universal nature, success in this area requires adaptation to local standards and lock dimensions, as well as integration with other mechanical locking systems.

#### ● *New markets*

In many new markets, such as Asia, the Baltic States, the Middle East and Latin America, an increasing proportion of the population enjoys a high standard of living, and hence the need for security has increased. These groups are demanding lock products that are more advanced than those manufactured locally.

#### **Competitive situation**

As noted above, the lock industry is fragmented globally but is well consolidated locally, with a limited number of competitors – often family-owned – in each market. Some harmonization and internationalization is under way, with a growing proportion of global products and technologies, particularly in the electromechanical area. However, support for local products, the long life of the products and the number of locks installed prolong this process significantly. In recent years, a structural transformation has been initiated in which larger corporate groups are formed and local players are uncertain about their ability to compete in the long term.

The major international players include



The "Bibliothèque National de France" in Paris was equipped with lock cylinders from Vachette, panic bars from JPM and handles from Bezault.

Ingersoll Rand, the American company, (which owns for example Schlage in the United States and Newman Tonks in the UK). Ingersoll Rand's lock division has annual sales of approximately SEK 8 billion. Williams Holdings, a British company, (with Yale in the U.S. and Chubb in the UK) has sales of approximately SEK 6 billion.

Other major players are Black & Decker (America), whose lock division – including Kwickset in the U.S. and Dom in Germany – has sales of SEK 6 billion. KABA of

Switzerland has annual sales of SEK 2.5 billion.

In addition there are a number of local players with strong positions. This also applies within individual product segments where, for example, Ilco Unican of Canada is a world leader in key blanks.

Standards and products are global in the hotel lock sector. Tesa, which is owned by Williams, plays a prominent role in this segment.

# Benchmarking creates an efficient organization

## Strategy

### Our products and markets

#### ● *Focus on the lock segment*

ASSA ABLOY's strategy is based on focusing on locks and lock-related products in order to achieve maximum efficiency in developing markets, products and production. Because all companies within the Group are working in the same area of business, there is an environment for the successful transfer of knowledge, and benchmarking between the various units within the Group. The best performance can always be transferred directly to another unit, and this stimulates a genuine increase in know-how at all levels in the organization.

#### ● *Focus on the trend towards higher security*

ASSA ABLOY's product development takes place in close cooperation with customers, the police and the insurance companies. Comprehensive efforts are also made to inform and train the various participants in the market as regards to the Group's products and security solutions. Retailers, architects, security officers and end-users are key target groups.

### Our management model

#### ● *Multi-domestic*

ASSA ABLOY is a world leader in its field, but proximity to customers and experience of local requirements, business arrangements and distribution patterns are the basic prerequisites for success in the lock industry. Accordingly, responsibility is cle-

arly decentralized to a single manager in each country. Each country constitutes a natural building block in the Group's operations.

In view of its global market coverage, VingCard is organized separately since in many respects its operations involve opportunities and threats that require different treatment compared with other lock companies in the Group.

#### ● *Executive management*

Country managers and VingCard's president are members of the Group management team. The management group's most experienced managers – the Group Vice Presidents – are responsible for a number of countries and thus help to ensure that ASSA ABLOY's management model and methods are applied.

#### Active internal benchmarking and inter-company learning processes

The Group endeavors to achieve a "horizontal" and flexible organization, with active internal benchmarking and inter-company learning.

All country managers meet on a regular basis, and compare their operations. Substantial improvements in efficiency have been achieved since everyone has something to learn. Despite considerable differences in profitability between the various individual units, the basic attitude is that even the best operations still have a great deal to learn from the others.

#### ● *Group strengths*

A high proportion of the improvement in

earnings achieved in both established and recently acquired units is a result of rationalization measures in the individual units. As described above, this is the result of continuous benchmarking and transfers of know-how between Group units.

In areas exposed to a considerable measure of global competition – representing approximately one third of the Group's products – there is increasing coordination of development and production, even though sales take place locally under separate brand names. There is also substantial cooperation in technical development between the various units, coordinated by the Group Product Council. In addition, Group procurement of raw materials, components and finished products is being coordinated. This is expected to result in additional savings.

In order to promote efficient financing and management of financial transactions, and to minimize financial risks, the Group has a central finance department.

#### ● *Wider ownership participation*

ASSA ABLOY wants employees and executives to participate in the company to the greatest possible extent. Approximately 1,600 of the Group's 11,000 employees hold shares and convertible debentures amounting to approximately eight percent of the shares when fully diluted. Group executives have substantial shareholdings.

#### ● *Group information*

In a rapidly growing Group, there is a great need for a regular flow of informa-

tion. The Group newspaper, ASSA ABLOY News, places special emphasis on the Group's strategy and growth. Group news, reports on successful projects and descriptions of new units and acquisitions are presented in nine languages.

#### Our expansion strategy

##### ● Organic growth

ASSA ABLOY's ability to generate organic growth on a continuing basis is a critical factor for the Group's success in the long term. This is achieved by intensive development efforts in both mature and new markets.

In mature markets where ASSA ABLOY is already established, this is primarily a matter of active product development, together with customers and others with a stake in the market. Cross-selling between Group units reduces development costs and permits more rapid market development.

In growth markets where there are no strong local players or brand names, new operations are established via Group subsidiaries. These markets often require products based on standards which differ from those which apply in Europe and the United States. ASSA ABLOY enjoys a strategic advantage as a result of its comprehensive product program.

##### ● Acquisitions in mature markets

Brand names, existing installations, and local standards and traditions are significant barriers to entry in mature markets. As a result, acquisitions of leading companies in such markets are a key feature of

ASSA ABLOY's strategy. The Group's strong cash flow helps to finance this type of expansion. In principle, the aim when making acquisitions is that the company concerned will contribute to the growth in Group earnings per share in the year after acquisition.

## Financial goals

The points noted above constitute ASSA ABLOY's strategy for the continued achievement of a satisfactory earnings trend, with a focus on earnings per share.

The financial goal is to have a return of more than 20 percent on capital employed. As a result of the acquisitions that have been made and the goodwill items that have arisen in this connection, maintaining this goal – which was set when the Group was formed in 1994 – is, in practice, an increasingly stringent objective. The return in 1998 was 15 percent. Most of the improvement which is required is expected to be achieved as a result of higher margins, although there are also possibilities of reducing the amount of capital tied-up.

An equity/assets ratio of 25 percent is considered adequate, taking into account the relative stability of the market and the strong cash flow.

## Step by step...

ASSA ABLOY's approach to corporate development is based on the cornerstones of our management philosophy: Realism, Vision, Courage and Ethics. The individual company's traditions, strengths and employees provide the natural starting point. In the case of recently acquired units, however, financial information is immediately adjusted to comply with a common format.

The aim is to create an environment in which people seek an exchange of knowledge between units and participate in an active benchmarking process, ensuring that everyone gains.

The following "ladder" shows the stages taken to achieve the ultimate objective: maximum shareholder value.



# “Every individual has the ability and ambition to do a good job”

**A**SSA ABLOY is characterized by a positive approach towards its employees. Every individual is considered able and willing to make a satisfactory contribution, and management is responsible for creating conditions that make this possible. Realism, vision, courage and ethics are cornerstones of the management philosophy that characterizes ASSA ABLOY.

**Realism** means that decisions, actions and leadership should always be based on thorough knowledge of the various sectors of the business. It is, of course, essential for a manager to have an overview, but detailed knowledge often provides the answers to important questions.

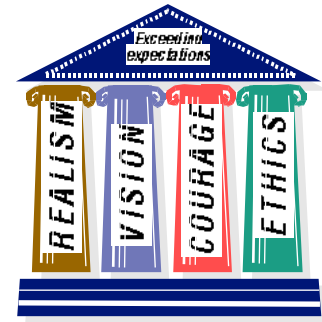
The **Vision** that is an important driving force in each operation must be realistic and based on solid experience. ASSA ABLOY's vision is to be the leading lock company in the world. “Leading” means not only being the largest company, but also the player that clearly sets the pace in the industry.

**Courage** and energy are required for success in today's dynamic society, in which changes have to be handled rapidly. Courage develops naturally when it is based on sound knowledge and a clear vision.

**Ethics** within the Company, reflected in both attitudes and actions, determine the degree of trust, creativity, ambition and commitment shown by employees. High ethical standards, with an emphasis on setting a good example, are essential if the Company is to be able to attract and retain the best employees.

As a result, the skills and commitment of employees and managers are important factors for ASSA ABLOY's continued success and growth. Accordingly, skill-enhancing measures – job rotation and training programs, for example – are conducted at all levels in the Group. The sharp focus on the lock market and active benchmarking establish favorable prerequisites for exchanges of experience between employees and between units within ASSA ABLOY. As part of this activity, the Company conducts the annual “ASSA ABLOY Management Program” in which approximately 25 employees have an opportunity to hone their leadership skills. The entire program is carried out by Group Management and is based on case studies from ASSA ABLOY. Nearly 100 managers have participated in this program.

Ever since the Group was established, various forms of ownership participation have been an important means of promo-



The company's management philosophy is based on four cornerstones: Realism, Vision, Courage and Ethics.

ting employee and management participation and the company's long-term growth. Accordingly, convertible debenture programs were offered to Group employees in 1995 and 1997. As a result of these programs and their own substantial investments, approximately 1,600 employees jointly own about eight percent of ASSA ABLOY AB.

Communication is important at all levels. “ASSA ABLOY News” is issued four times a year, in nine languages, to disseminate information on a continuous basis and keep all 11,000 employees up-to-date on what is happening in the Group.

This publication provides an opportunity to present newly acquired units and to describe important organizational changes and successful projects, from which everyone can learn.

A “100 Meeting,” which is arranged every other year, was held in June 1998.

This Meeting brings the Group's senior executives together, to establish unanimous support for the joint visions, objectives and strategies – and it provides an opportunity for an exchange of experience and ideas.



ASSA ABLOY brings together its 100 most important managers every other year to review the Group's visions, strategies and objectives.



ASSA ABLOY's annual Management Program is conducted entirely under the company's auspices. There are two primary objectives: 1. Increased learning and “cross fertilization” between units. 2. Problem-solving related to actual challenges faced in the business – for example in the production of cylinders at Vachette in France.

# Much to gain from environmentally compatible production

**A**s a rule, environmental issues are closely linked with efficiency and successful business operations. So it is a simple matter to gain the support of managers and other employees for a well-thought-out environmental strategy. Environmental issues have high priority on the Group's agenda. In 1996, it was decided in principle that all companies should be certified in accordance with the ISO 14001 Environmental Management Standard.

Environmental management closely resembles quality assurance. It involves daily efforts and affects all areas of the company, including the selection of materials used in products, the way materials are utilized, disposal of residual products and waste, and the cleaning and reuse of chemicals. It also involves the choice of packaging material and the manner in which products are distributed. The long life of lock products obviously means that they have less impact on the environment since they are replaced at very infrequent intervals – 30 years or more is not unusual.

The environmental management standard helps the company to focus on environmental problems in its daily operations and find solutions – which often prove to be not only less expensive and better for the environment, but also better for employees working with the products and for end-users. Assa's new nickel-free key is a good example. It is produced specifically for persons who are allergic to nickel, an increasingly common problem.

There is strong vertical integration of production processes at ASSA ABLOY. Security products are manufactured from raw materials such as steel and brass and processed into finished packaged products ready to be delivered to customers. As a result, companies in the ASSA ABLOY Group have excellent control over design, production methods and the utilization of resources, enabling them – with few con-

straints – to create security products that have a low impact on the environment.

The high quality and functional requirements expected of security products constitute an important constraint. This obviously affects the choice of materials, machining requirements and distribution routines – which may occasionally conflict with environmental requirements.

This presents a challenge, of course!

Some of the ASSA ABLOY companies who have introduced the ISO 14001 standard and received environmental certification are Assa, Abloy, Ikon and Ruko.

## Quality assurance – an area for continuous improvement

Security, trust and quality are closely related. ASSA ABLOY companies continuously improve the quality of their performance in all areas: products, development, delivery reliability and, not least, the handling of security documentation pertaining to lock systems which have been installed.

To assist them in this area, all companies in the Group – with few exceptions – have already adopted the international ISO 9001 (or 9002) standard. This standard does not create quality in the companies' processes simply because it has been adopted. The quality stamp that a company receives when it has been certified is not a final seal of approval. It marks the inauguration of a program of continuous improvement.

The quality system helps companies to measure, monitor and improve their quality – and discover defects and rectify them in time – helping them to learn from their mistakes and improve steadily.

That is the way to establish long-term quality.

Computers and microprocessors are to be found everywhere today – and ASSA ABLOY is no exception. As the new millennium approaches, there are

a number of questions regarding the ability of software and hardware to handle the "Y2K problem" in a satisfactory manner. ASSA ABLOY has conducted a comprehensive stocktaking operation and implemented an action plan to ensure that all applications – involving administrative and technical systems, and also suppliers – will be able to handle the problem.

Eighty percent of the products supplied by ASSA ABLOY are mechanical and are not affected by the millennium shift. Most of the remaining electromechanical products are supplied as "stand alone" devices, although they often form part of various systems.



The company's IT function is certified in accordance with the Swedish IT Commission's Year 2000 checklist.



The ISO 14001 environmental standard has a high priority.

ASSA's nickel-free key, specially developed for people who are allergic to nickel.



# Prevention is increasingly important in a vulnerable society

**T**he need for security is nothing new. Safety and security are among man's fundamental needs. Originally, caves were "locked" with a rock in front of the entrance. Locks made of knotted ropes were used thousands of years ago, and padlocks have been utilized by traveling merchants for centuries. The modern lock industry and widespread use of locks began to develop in the 19th century.

## Modern society

Urbanization and concentrations of people in and around large cities have resulted in increased anonymity and a sense of insecurity. The likelihood that a crime will be solved is small and, statistically, everyone can expect to experience one or more break-ins during their lifetime. Such phenomena as "neighborhood watches against crime" are designed to replace the earlier monitoring of neighbors and local occurrences.

Industrialized societies are characterized by the "more for less" concept. Companies have to be efficient in the face of ever keener competition. Concepts such as "just in time" deliveries and "lean production" have become increasingly important guiding principles. Information flows are computerized and communication between different parts of a company is automated.

The pace of development is increasing. The period from identification of a need to development and production is becoming shorter – and the life of products is also being curtailed. Increased competitiveness

and flexibility are appreciated by customers, providing that everything works the way it should.

All these developments are extremely positive, of course.

## Increased vulnerability

At the same time, this means reduced safety margins. Inventories are small or nonexistent, development periods are rapid and product lives are short. There is no margin for error if the company wants to continue to be competitive. The margin between success and failure has narrowed!

Many machines are operating 24 hours a day, and the cost of duplicate resources is too high. Production equipment is becoming increasingly dependent on the company's information technology (IT) systems. Insurance can provide protection against financial loss, but not against the loss of customers or trust.

Crime is on the increase. It is a fact of life and is growing in terms of both "content" and methods. Man's greater mobility is helping to make the fight against crime more difficult.

Just as cars became major targets for thieves when they began to be common in society, electronic equipment and computers are now highly attractive objects and can be readily converted into cash. They are also located everywhere – in homes as well as in companies. And the consequences of a theft – in the form of lost information – are often greater than the immediate loss.

## Safety, security and user-friendliness – hand in hand

The best approach is to prevent attacks. The next best is to detect and provide warning when something is happening. These factors underlie the trend towards higher security.

The first important step is to have proper doors, windows and locks – preferably supplemented to control daytime personnel movements. Not all attacks come from outside.

Will more security arrangements make things safer? Unfortunately, this is not always the case. Excessively rigorous secu-



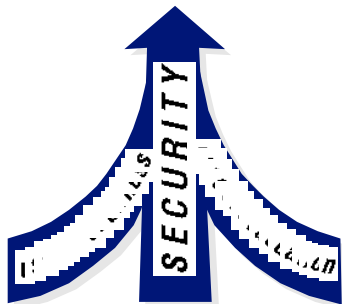
More security does not always mean higher security, if the product is not user-friendly. More security may even make it difficult to evacuate the premises, as in this apartment in Genoa, Italy.



rity planning can result in a system which is so impractical that it is not used, and the impression given by an otherwise prestigious building may be impaired by unwieldy, conspicuous security systems. An excessively complicated system can also jeopardize safety, making it impossible to escape in the event of fire.

More is not always better. A lock system that cannot be maintained diminishes rapidly in value as protection against exterior and interior intrusion. What is needed is not merely a technically secure product but one that can be adapted to changes and can grow with the business. This is where modern lock systems and products differ from their predecessors.

Safe emergency exit requirements may often conflict with protection against theft or other threats. A department store is a good example. It must be possible to lock unmonitored exits while, at the same time it has to be possible to evacuate the building rapidly in the event of fire. Modern



One of ASSA ABLOY's most important guiding principles for product development is meeting the need for greater security, while simultaneously taking into account user-friendliness and the need for safe emergency exits.

solutions are available in the form of a combination of mechanical and electronic devices – time-delayed escape fittings, fitted with alarm devices. Security and safety must go hand in hand.

Greater security, in prestigious premises in particular, imposes greater demands on the design of security products. Parts of systems that are clearly visible should offer a “sober” impression and should fit in architecturally with various environments. Lock components should be as invisible as possible.

### Opinion leaders create new product needs

The growing need for secure products and the somewhat conflicting demands of security, convenience, user-friendliness and styling are resulting in a multiplicity of new security products that are replacing or supplementing existing installations. They are also contributing to an increasing interest in security and security products.

More sophisticated functions are normally solved by electronic and electromechanical means, but there is also a comparable trend for mechanical “basic products.”

Organizations such as the police and insurance companies, which are in a position to influence public opinion are contributing actively to the search for new solutions and they are drawing attention to new products. These opinion-leaders are playing an important role in the growing trend towards higher security.

## Toward a growing market

Obviously, one important prerequisite for an expanding market is a greater need for security. But this is not enough. Suppliers must actively develop and market a continuous flow of new and improved products to meet this need. The “positive spiral” is based on a keen ear, co-operation, development and customer satisfaction.

### The positive spiral



- The market grows.
- Customers are offered product with added-value.
- Investments in research and development create safer, more secure and more user-friendly products.
- Close cooperation with customers, dealers, insurance companies, police authorities and fire departments.

### The vicious spiral



- Too little invested in development.
- Customers are not offered added value, products become increasingly similar.
- Focus on price competition.
- Less and less invested in development.
- The market stagnates.

# A security system is only as strong as its weakest link

**D**evelopment is a term with many meanings. At ASSA ABLOY, development applies not only to products, but also to employees, dealers, installers, and end-users. A security system is only as strong as its weakest link and – in addition to a good product – all locks and security products require proper installation, operation and efficient maintenance. All aspects are important and impose heavy demands on information, advisory services and training.

## Products

The trend toward higher security, the development of production technology and the new opportunities offered by modern electronics are creating conditions for the development of lock and security products that meet the market's high expectations. Products introduced during the past five years account for 35 percent of the Group's sales. "Electromechanical products" – a combination of mechanical engineering and electronics – account for a growing proportion of ASSA ABLOY's sales and have the highest growth rates. The largest investments in development are being made in such areas as lock cylinders, electromechanical locks, hotel locks and emergency-escape products. In addition, there is growing demand for complete systems for doors and windows in which a number of inter-

acting products form a single unit.

To an ever-greater degree, concern for the environment is influencing the design of products, the selection and use of materials, and recycling requirements. The increasing allergy-related demand for keys made of nickel-free alloys is a good example.

## Markets

Delivery of security is based on trust. A lock company builds trust by carrying out a long-term, methodical program based on quality in all operations. This is an important platform for all companies in the ASSA ABLOY Group. Moreover, security is much more than the products involved! Distributors, installers and locksmiths need continuous training to enable them to solve the end-users' problems efficiently, make proper installations and perform maintenance efficiently. Training and support are also required if the security system is to be utilized and managed properly. This may be provided by the distributor or, in some cases, directly by the lock manufacturer.

## The industry

Confidence in the industry, its products and systems is particularly important in the security industry. People have to be able to rely on a supplier of security. This means that it is important for all compa-

nies in the industry to work in the same direction. This takes place, for example, in the work of national and international trade associations and as a result of participation in standardization programs, in which common security specifications are drawn up with a focus on functional requirements. ASSA ABLOY companies play a very active part in this process. The various countries have much to learn from each other, and substantial progress has been made in recent years.

On the other hand, in contrast with the situation in many other industries, there are limited opportunities for the mechanical standards established at the international level to achieve an immediate impact. The industry is characterized by products that last a long time – often 30 years or more – and they are installed in buildings that, in their turn, may last for 100 years.

The diverse mechanical designs and materials used in different parts of the world make it difficult to achieve appropriate common solutions. In some parts of the world, doors have traditionally opened inward, and in other regions they have opened outward. Doors in countries with cold winters tend to be thicker. Wood or metal may be the dominant materials, with varying use of glass. The strength of the doors also varies considerably.



Solid's card-reader/keypad offers convenience by day and security at night. Assa's deadlocking latch and Solid's electrical strike offer controlled, reliable daytime access. The ASSA motorlock provides maximum night-time security. Abloy-Primo door pulls are easy to use – even by the elderly and disabled. The Abloy door closer ensures that the door shuts properly, every time.

## Key Control

An example of the use of the security pyramid for key control in the European market.

### Absolute key control

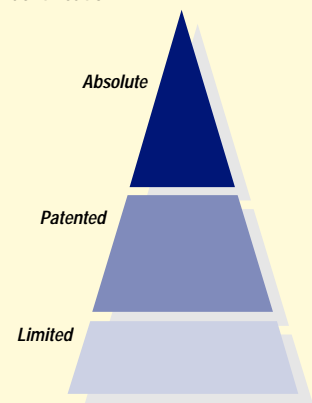
requires an approved and registered authorized service agreement between the system owner and a licensed service centre or the manufacturer. The key must have a unique electronic code and a patented mechanical code. ASSA Twintronic, IKON Ikotron and ABLOY EXEC ID are examples of cylinders based on this technology.

### Patented key control

means that extra keys are manufactured only from patented and design-protected key blanks. An approved and registered authorized service agreement is required for follow-up orders for keys and service. ASSA Twin Combi, Ruko Combi II, IKON Sperrwelle, ABLOY Disk-Lock Pro, TrioVing Twin and Vachette Radial are examples of cylinders that use this technology.

### Limited key control

means that the keys can be copied if the customer has a sample key and valid identification.



### ASSA ABLOY Selected New Products 1998

**Sweden:** **Combi** and **7000** – patented cylinders. **179** – panic exit, meeting the new CEN standards. **Nickel free** – allergy safe keys and accessories. **820** – window lock, can be locked whilst still providing ventilation for maximum intrusion security.

**Finland:** **EXEC ID** – electromechanical cylinder. **DC240** and **DC241** – european line of Door closers. **8140** and **EL440** – mortised solenoid locks for central Europe.

**Norway:** **TrioVing Twin** – high security cylinder with patented key blanks for copy protection.

**Denmark:** **Combi Plus** – patented high security cylinder providing system design also on the side code for larger lock systems. **Funxion** – the “eternal” stainless steel series of SUPERELLIPSE® inspired door furniture

**Germany:** **SK6 Sperrwelle** – high security cylinder approved in the highest security class with more than 100 million combinations. **SK6-1RP60**, 6-pin high security cylinder. **S423** – steel protective plate with anti-panic function.

**UK:** **Ruko Flexcore** – patented cylinder range to meet demands for key copy protection. **Coin locks** – meeting severe environmental requirements.

**Compact 2000** – heavy duty lock case meeting the new CEN standards.

**France:** **2010 A2P\*\*\*** – highest security class, up to 7 point rimlock. **“Bigsur”** – motorised multipoint rimlock for use with access control. **Nautil** – a new series of designed door handles and accessories in anodised aluminium.

**Belgium:** **MP 75** – security cylinder.

**US:** **The Unlatch** – patented replacement for electric strikes, strong and invisible. **SAM (Shear Aligning Magnalock)** – unique patented self aligning mortised magnetic lock. **Keypad Operated Cylindrical Lever Lock** – wireless single door, low cost access control. **CTV (Center and Top latch Vertical rod)** – three point latching with full panic function for double doors. **Freewheeling 8200** – mortise lock vandal resistant trim for most door types.

**Czech Republic:** **FAB SLS 24** – pick resistant 5 pin & lever cylinder with numerous combinations. **FAB 1576/7B** – heavy duty single and multi-point rim lock. **FAB 2035** – new versatile industrial cylinder. **SKODA lock sets** – mechanical and transponder based.

**VingCard:** **PowerSafe** – lap-top adapted hotel safe with charging facility. **Y2K** – software and upgrade for hotel lock installations. **A-Series** – audit trail safe for the middle market.

# Continuous product development

**A** great deal has happened in the past 100 years – particularly during the past five years. New products are being introduced to meet the changing security needs of a new era, and traditional products are gradually being improved to provide new functions.

The need to service its installed base is one of the lock industry's most important tasks. After-market sales often account for more than half the total volume. This means that lock manufacturers have to be able to replace lock products which may be 30 years old with new items that provide comparable or upgraded functions and are compatible with the existing apertures in the door.

## Mechanical locks, lock systems and accessories

Lock cylinders are an important product area in which ASSA ABLOY has a strong position in many countries. Lock cylinders, or more often lock systems based on lock cylinders with totally different functions, are the cornerstones in all security systems. While the exterior shape of lock cylinders has been the same for decades, the functions provided have been developed considerably.

A number of lines of development have been pursued: pin cylinders, disc cylinders, side bars, star-shaped pin configurations – all with a specific purpose. The aim of each design is to create wide opportunities for variation, thus enabling the company to offer each customer a unique lock system. Patented keys offer a higher degree of security since the keys can only be duplicated by an authorized dealer.

The level of security can be further improved by a combination of mechanical and electronic codes. A lost key can simply be "coded" out of the system and will no longer constitute a security risk.

There are lock cases for many different types of doors, depending on the material, thickness, etc. Specifications vary, in accordance with the security requirements and the type of usage (exterior door, office door, fire door, etc.). Where there are particularly strict demands for protection against intrusion, various forms of multipoint locking are becoming increasingly common. Locks of this type, which have a number of simultaneously maneuverable locking bolts for exterior or mortise mounting, are already common, for example in United Kingdom and France and in large cities in the United States. They are also being increasingly used in many other countries. Multipoint locks are an important growth area for ASSA ABLOY.

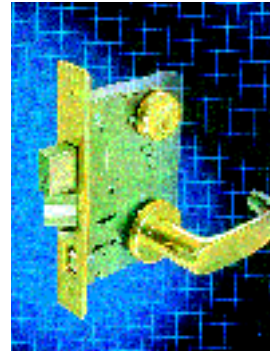
Padlocks are sold in the consumer market and also to professional customers, including military facilities and telecom operators, where padlocks form part of an overall system.

## Fittings and security doors

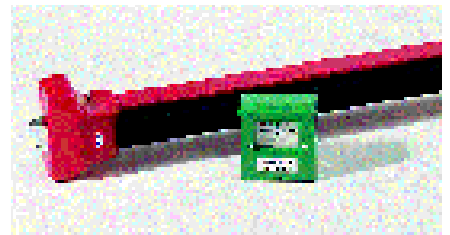
Hinges must provide the same high level of security as locks and cylinders. A secure opening must be regarded as a single unit. Door and window fittings, handles, security plates and decorative fittings around a lock are natural elements in a complete range of security products.

In most countries door and window companies are important ASSA ABLOY customers. They often have special design requirements to facilitate factory assembly. In the U.S., ASSA ABLOY has its own major production facility of complete security doors.

Locking yourself in is not enough if you want to feel safe. People also have to be able to escape, in the event of a fire for example. Situations of this nature are all too common and there is a growing awareness of the danger of being "too locked in." As a



The Sargent 8200 lock was developed to handle the very high demands for both strength and security in the American institutional market.



Elektronics are used in the Sargent Elektroguard and JPM Push Control to prevent misuse of panic bars. They are used only when required in an emergency.



Fire-resistant steel doors made by Curries and fire doors with wood paneling produced by Graham prevent the spread of fire while allowing time for safe evacuation.



ASSA/Ruko and ABLOY padlocks are available in various security categories.

result, there is a growing demand for safe emergency exit solutions. This may consist of a mechanical panic bar, but special escape fittings, with alarm and time-delay features have also been developed and are sold by ASSA ABLOY all over the world.

### Electromechanical and electronic locks

The market for access control is expected to grow by 8–12 percent a year. An electrically controlled lock – an electric strike, a motorlock or a magnetic lock – is required for each door connected to an access control system.

Electric strikes, the most common form of electric lock, are used in doors with high traffic flows. Motorized locks offer design and security advantages and are increasingly employed. Magnetic locks have scored major successes in the American access control market.

The combination of more doors and increased demands for modifications to meet disablement norms and convenience requirements is creating a growing need for automatic operation. Once a person has established his or her credentials, the rest takes place automatically. Abloy's automatic swing door systems are currently sold in several ASSA ABLOY markets.

### Industrial locks

There is a large number of applications in which locks are built into special equipment ranging from lockers and mail boxes to pay telephones and gaming machines, parking meters and vending machines. The customer needs a secure lock cylinder, generally one that meets high security specifications. The lock company prepares specifications for the product jointly with the manufacturer, designing a product based on the company's own locking technology. Today, these products

increasingly contain a combination of electronic and mechanical locking technology. Assa, Abloy and Medeco are world leaders in this field.

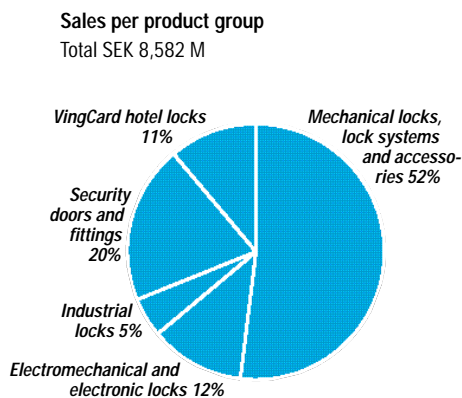
### Hotel locks

Liability is a critical issue for the hotel industry throughout the world. The ability to offer hotel guests safe accommodation imposes considerable demands on locks and the management of keys or cards.

There are also increasing demands by hotels for efficient administration and integration with other systems, Hotel locks currently constitute a separate market niche, with a limited number of major players. VingCard, an ASSA ABLOY company, was the first to introduce this type of lock and is a world leader in this field.

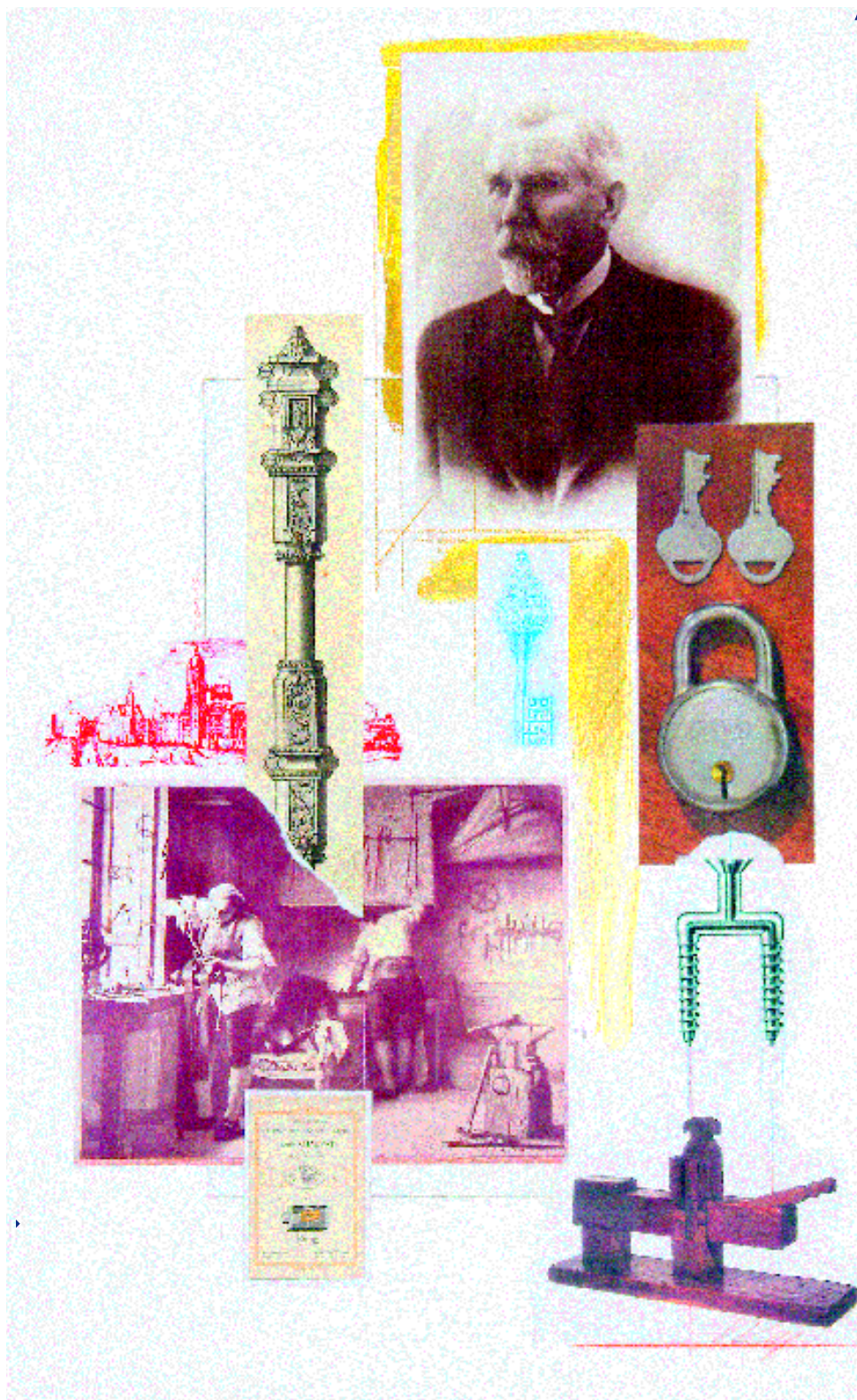


VingCard's various card-reader systems are available in several upgraded models, depending on the size of the hotel. The principle is always the same: insert the card, pull it out and open the door.



A strong door and high resistance forced entry is achieved using a multi-point lock. Shown here is a 7-point lock from the French company Vachet.

# Modern security is based on a long tradition



“I have to work; otherwise life is meaningless!” That was the favorite maxim of the legendary August Stenman, the industrialist who, in 1881, sowed the first seeds of the company that is today ASSA ABLOY. When he was not quite 30 years old, he borrowed money for a forge in Eskilstuna. In his younger days August Stenman had been a journeyman in Europe and the United States where he had learned techniques and established contacts that later proved critical for the future of his company.

ASSA ABLOY is now one of the world's leading lock companies, with approximately 11,000 employees in 27 countries. The present organization was formed in 1994 when the lock operations of the Swedish Securitas AB and the Finnish Metra Oy Ab companies were merged. In connection with the merger, the company's shares were listed on the Stockholm Stock Exchange.

August Stenman's curiosity and entrepreneurial spirit propelled the company forward by leaps and bounds. Initially, he bought new machines, but later he learned how to design and build special equipment. He was a pioneer in the automatic tools field when he installed the first hinge machine in 1890. Some of his methods would probably be considered industrial espionage today – for example when he arranged for one of his clerks to take a job as a cleaner in competitors' factories, where he had plenty of time to make drawings of the machines.

Long before the word “benchmarking” was coined, Stenman established the principle that makes ASSA ABLOY so successful today: Take advantage of each others' operations and experience in the Group's various companies.

Abloy in Finland also has a long history that began in 1907 when Emil Henriksson, a mechanic in Helsinki, invented the disk cylinder that is still an important part of today's product line. The first patent was

registered in 1919 and a new company was founded – Ab Lukko Oy, from which the Abloy name is derived.

Ab Lukko Oy eventually became part of the Wärtsilä Group and the production capacity in Joensuu was expanded over the years. Today, 750 people are engaged in the production of construction locks, electro-mechanical locks and fire door systems. In 1997, the fine working environment at Joensuu, which is a relatively sparsely populated district, received the Finnish Ministry of Labor's "Excellent Employer" award.

### **Internationalization**

ASSA Stenman soon appreciated the importance of being seen in the marketplace. In 1967, with a touch of irony, the company launched a notable campaign in which it introduced a "Z" screw, a square screw, a double screw and an angle screw! In earlier days Mrs. Stenman contributed to the success of the enterprise by embroidering her husband's initials in reverse. And that is how the ASSA name originated.

August Stenman's "disciple" and successor, Sixten Nilsson, quickly adopted such modern marketing methods as direct-mail advertising and succeeded in expanding in the world market from his home base. Nilsson began an era that can be characterized by its strong focus on the export market. He travelled to countries near and far to establish customer relationships – and customers from as far away as India, Japan and Latin America visited the factory in Eskilstuna.

ASSA ABLOY has pursued a policy of internationalization over the course of years and is now represented by its own subsidiaries in Sweden, Finland, Norway, Denmark, Germany, United Kingdom, France, Belgium, the Czech Republic, Slovakia, Romania, Poland, Singapore, Mexico and the United States. Its strategy in mature markets is to purchase leading

companies, while new operations are established in growth markets through subsidiaries.

### **From hinges to security**

From hinges, locks and equipment for emergency exits to total systems for increased security – that is one way of summarizing ASSA ABLOY product development. Many of the requirements for locks have changed since the beginning in 1881, but the essential need is still the same: to be part of a protection system for people and property, based on today's requirements.

Stenman's "security pyramid" is a flexible system of locks that covers every conceivable level of need, from housing accommodation with standard keys to facilities such as nuclear plants and defense installations that have strict security requirements. Lock systems can also be supplied for use in hospitals, schools, industrial plants and ships. Today there is a strong demand for electromechanical locks as efforts are made to increase security in the retail trade and in banking, where longer opening hours are increasing the risk of criminal activities.

ASSA ABLOY's employees in the United States can be proud of lock installations in such buildings as the White House, the United Nations Headquarters and the U.S. Supreme Court Building. Following the bomb attack on the World Trade Center in 1993, the need for reliable security became obvious. The contract was awarded to ASSA, which currently has approximately 20,000 locks installed in the complex. ASSA ABLOY has ten units in the United States, the oldest of which – Sargent – has been in business for 135 years. As early as the mid-19th century, Sargent was a good example of how the trend towards higher security had developed. The company started by producing everything from screws to tools. In recent years it has focused on locks and doors. Today, Sargent is a leader in door locks and equipment for

emergency exits.

In 1976, VingCard, a Norwegian company, introduced another world innovation, easily re-codeable card based locks for hotels and cruise ships. The lock was installed for the first time in what was then the world's tallest hotel, the Peach Tree Plaza in Atlanta, operated by the West Inn chain. Today, two million hotel guests in more than 135 countries throughout the world are able to use an "intelligent" lock that conveys a sense of security since it is reprogrammed for each new guest.

### **Growing range of security services**

When the Danish locksmith Rudolf Koreska started the Ruko company in 1930, its products were hardware. But in 1998 the company followed the trend towards higher security by establishing a special security center in which specially trained employees offer customers services related to the company's products.

The current leader in the European market for emergency exits is JPM, which is undoubtedly the oldest company in the ASSA ABLOY Group. JPM was founded in 1645 by Jean Paul Maquennehen, a Flemish clockmaker. The big breakthrough for JPM occurred nearly 300 years later, in 1970, with its introduction of the world's first security equipment for emergency exits. Today the company has installed both panic bars and lock cases, for example in the La Défense complex in the financial district in Paris.

ASSA ABLOY's market has thus grown from simple locks to today's more sophisticated security solutions. In all, the company has installed half a billion locks worldwide.

A great deal has happened in the past 100 years but ASSA ABLOY's growth has, in fact, been subject to the same driving force the whole time – people's increased need for safety and security – for themselves, for those close to them, and for their property.