

# Company Profile 2006

An introduction to the LEGO® Group



LEGO Group in key figures	3
Toy of the Century	4
How LEGO products have developed	4
Moving to the future	7
LEGO products for all children	9
The minifigure	10
LEGOLAND Parks	12
LEGO Community	13
Learning through play	15
How LEGO bricks are made	16
Selected LEGO statistics	17
Using the LEGO brand name	18





## It all began in 1934...

The founder, Ole Kirk Christiansen, hit upon the LEGO name in 1934. He took the first two letters of the Danish words LEG GODT, meaning “play well”, and put them together – quite unaware that one meaning of the word in Latin is ... “I put together”. “LEGO” is both the name and the idea behind the company. Play is a key element in children’s growth and development. Play is nutrition for the soul. Play stimulates the imagination, the emergence of ideas, and creative expression.

It is LEGO philosophy that “good play” enriches a child’s life – and its subsequent adulthood. With this in mind, the LEGO Group has developed and marketed a wide range of products, all founded on the same basic philosophy. A philosophy of learning and development – through play.

In 2006 there are many views on what children will play with in future. The toy market has changed radically in recent years, and consumer electronics such as mobile phones, MP3 music players and game consoles are giving traditional toys some stiff competition. But the LEGO Group is of the firm opinion that the LEGO brick will continue to be relevant to children of all ages. There are hours of play in the LEGO brick that few other sources offer. A world of imagination and total absorption. Putting two LEGO bricks together is intuitive and delivers the spontaneous joy of creation which can perhaps be supplemented – but never replaced – by electronic experiences.

Fashion and trends in toys change quicker than at any other time in history, making it more and more difficult to forecast what children will want to play with tomorrow. At the same time the market for traditional toys is crowded with cut-price products – forcing manufacturers to produce quality toys at low cost. As a consequence, in recent years many toy manufacturers have relocated labour-intensive parts of production to low-wage countries. Over the past few years the LEGO Group, too, has been carefully considering all its business options. In 2005 the Group decided to sell off its LEGOLAND Parks from its core business and to close its own production plant in Korea. And in spring 2006 it closed its own production facilities in Switzerland. Production was transferred to the Group’s own factory in the Czech Republic and to subcontractors in Eastern Europe. The Company continues to review its current production structure and expects over the next few years to relocate all or part of its production.



## Financial Highlights (mDKK):

	2005	2004	2003	2002	2001
<b>Income Statement:</b>					
Revenue	7,050	6,315	6,792	9,601	9,000
Expenses	(6,582)	(6,252)	(7,902)	(8,795)	(8,142)
Profit/(loss) before special items, financial income and expenses and tax	468	63	(1,110)	806	858
Impairment of fixed assets	95	(723)	(172)	-	-
Restructuring expenses	(104)	(502)	(283)	-	(122)
Operating profit/(loss)	459	(1,162)	(1,565)	806	736
Financial income and expenses	(3)	(75)	67	(189)	(215)
Profit/(loss) before tax	456	(1,237)	(1,498)	617	521
Profit/(loss) on continuing activities	331	(1,473)	(953)	348	420
Profit/(loss) on discontinuing activities	174	(458)	18	(22)	(54)
Net profit/(loss) for the year	505	(1,931)	(935)	326	366
<b>Employees:</b>					
Average number of employees (full time), continuing activities	5,321	5,620	6,542	6,659	6,474
Average number of employees (full time), discontinuing activities	1,322	1,725	1,756	1,657	1,184

## LEGO Group in key figures

The LEGO Group ended 2005 in the firm belief that it has survived its financial crisis. Results for 2005 indicate that the Company is once more on the right track. The overall result before tax – a surplus of DKK 702m – exceeded all expectations for the year. Despite generally slow growth on global toy markets, the LEGO Group enjoyed an increase in sales and in market share in all major markets. This was the case in the largest toy market, USA, and the Group's core market in Germany raised its sales significantly. Total Group sales in 2005 increased by approx. 12%.

### Idea and Production

The LEGO Group has approx. 5,300 employees worldwide.

Concept and product development takes place primarily at the company's Billund headquarters in Denmark and at satellite offices around the world. The creative core is made up of 120

designers representing 15 different nationalities. Most of these designers have trained at design and art schools throughout the world but the LEGO Group makes no formal demand for such an educational background – staff selection is based on hands-on assignments and personal interviews.

LEGO bricks are manufactured at several sites. LEGO elements are moulded at the Group's own factories in Denmark and the Czech Republic and by external suppliers. They are then processed and packed as finished products in Denmark, Czech Republic and the USA as well as by external suppliers. Approx. 15 billion LEGO bricks and other components are made every year – equivalent to approx. 1.7m items an hour or 28,500 elements a minute.

There are about 2,000 different parts in the LEGO range. Plus 55 different colours and 20 different materials.



## Toy of the Century

**A**t the beginning of the 21st century the LEGO brick was acclaimed “Toy of the Century” – first by Fortune Magazine and later by the British Association of Toy Retailers. When Carpenter Ole Kirk Christiansen began making wooden toys in 1932, he could not have foreseen the development he had set in motion. Since then the company has passed from father to son. Today it is the founder’s grandson, Kjeld Kirk Kristiansen, who owns the LEGO Group, which in terms of sales is the world’s sixth-largest toy manufacturer:

1. Mattel
2. Hasbro
3. Bandai
4. MPA
5. LeapFrog
- 6. The LEGO Group**

The LEGO Group has itself grown through the various ages of play by passing on know-how and vision to the next generation – at the same time incorporating new technology in its products along the way. The Company’s history shows that the scope of product development has been immense but that the product foundation has remained constant.

## How LEGO products have developed

In the first era construction and building fun were the central elements in play. In the second era LEGO products gained motion with the introduction of wheels, small motors and gears. Role play and themes formed the basis of the third era – and LEGO figures were born. A fourth era followed, with intelligence and behaviour becoming an integral part of LEGO products.

### LEGO System of Play

The classic LEGO interlocking principle was developed more than 40 years ago. The many possible ways of combining LEGO components encouraged children to use their imagination and explore their own creative universe. In 1950 Godtfred Kirk Christiansen took over at the helm of the LEGO Group when his father, Ole Kirk Christiansen, stepped down. Five years later the LEGO Group introduced the revolutionary “LEGO System of Play” with the first “Play and Learn” concept, emphasising the importance of learning through play. Shortly afterwards the company passed yet another milestone. In 1958 it launched the LEGO brick with its new interlocking system.

### Inventing the wheel

To Godtfred Kirk Christiansen this was just the start of the LEGO System. In 1962 he reinvented the wheel and began experimenting with motors – and in 1966 introduced the first LEGO train with its own rails and a 4.5v motor. Many more innovative ideas fol-



lowed. The LEGO TECHNIC series, introduced in 1977, included parts such as gears, beams and gearboxes. The product range invited older children to build vehicles and other machines which were just as complex as their “real-life” counterparts.

### **Big bricks for little fingers**

Another revolutionary development happened in the late 1960s: Instead of aiming broadly at the target group “children”, LEGO products were adapted to age groups and stages of development. Godtfred Kirk Christiansen recognised that younger children could get much more fun from the LEGO system. But they needed different tools. LEGO DUPLO was launched to give the youngest ones the opportunity to play with LEGO products. LEGO DUPLO bricks are twice as long, high and wide as ordinary LEGO bricks – and therefore easier for the youngest hands to manipulate.

### **LEGOLAND on the map**

In 1968 the LEGO Group set up LEGOLAND Park in Billund. The park was to prove the most famous and vibrant symbol of creativity and imagination – viewed from the child’s perspective. LEGOLAND offers adventures for children and fun and enjoyment for the whole family.

### **LEGO figure is born**

The third era in LEGO history opened in 1974 with the first LEGO figures. The figures represented a whole new LEGO con-

cept, with role play and personality becoming part of LEGO play.

### **System within a system**

In 1978 Godtfred’s son, Kjeld Kirk Kristiansen, introduced a business model which created a “system within the system” and gave the LEGO Group an objective in its product development: to an increasing degree, the different product ranges were to take account of the child’s needs and abilities at each stage in its life – continuously aiming for optimum stimulation of the child’s creativity and imagination. Kjeld Kirk Kristiansen was named president and CEO of the LEGO Group in 1979. A company and its traditions were placed in the hands of the third generation.

### **Expanding the universe**

Kjeld Kirk Kristiansen added a new dimension to the LEGO system of play. LEGO figures were already established as popular characters, and the focus therefore switched to stories, themes and role play. On the continued principle of unlimited play, children were introduced to brand-new LEGO worlds on which they could build and expand their imagination. In 1979 the LEGO Group reached beyond the skies when it launched the LEGO Space series. Neil Armstrong may have been the first man on the Moon – but there was no doubt it was a LEGO figure that first visited an alien galaxy.



### Partnership with science

In 1984, before digital development really took off, the LEGO Group entered a partnership with Media Laboratory at the Massachusetts Institute of Technology, USA. Research in technology and learning processes enabled the LEGO Group to spearhead development. By blending physical and virtual worlds into an integrated play universe, the company came up with new products. LEGO TECHNIC Computer Control was launched in 1986 as one of the partnership's first tangible results. LEGO products for the educational sector benefited substantially from this invention, which later paved the way for the first computer-controlled LEGO robots.

### Many products in the 1990s

In the 1990s the LEGO Group launched a steady flow of new products. In 1994 the LEGO TECHNIC Supercar sparked the enthusiasm of young motoring fans all over the world. That was also the year LEGO Belville, a product for young girls, appeared with its nuclear family, horses and scenes from everyday life. LEGO Belville also moved later into the classic world of the fairy tale with princesses, fairies and butterflies. In 1995 the LEGO Group launched products for the very youngest, including LEGO PRIMO, designed for children aged 0-2 years.

During the 1990s the company opened two new LEGOLAND Parks outside Denmark: one in Windsor, Britain, in 1996, the other

in California, USA, in 1999. The fourth park appeared on the map at Günzburg, Germany, in 2002.

### Robot technology for children

The 1990s were also the decade in which the LEGO Group stepped firmly into its fourth era. Intelligence and behaviour became integral features of the LEGO product range. In 1998 the partnership with Massachusetts Institute of Technology produced amazing results. By integrating robot technology with the LEGO construction system, LEGO MINDSTORMS enabled children to create and programme intelligent LEGO models. FIRST LEGO League is a result of this work: a worldwide technology tournament in which schoolchildren compete with each other. Tournaments are held in collaboration with the US non-profit organisation FIRST (For Inspiration and Recognition of Science and Technology). Children design their own robots, and at the same time they are required to participate in a series of scientific and mathematical/technical projects.

### Story-telling

In 1998 the LEGO Group announced an exclusive licensing agreement with Lucasfilm Ltd. It gave the Group the right to develop, manufacture and market a new series of LEGO sets based on themes from the original Star Wars™ trilogy and the three new Star Wars movies.

The BIONICLE universe made its appearance in 2001. It was the first time the



LEGO Group had developed a complete story from scratch as the basis for a new product range. Through a combination of physical products and a detailed online universe, children are invited to tell how they see the story and the action developing. With the BIONICLE range the LEGO Group brought a brand-new category to the toy market: Construction (combination of “construction toys” and “action figures”). The knights of the Knights’ Kingdom range were later added to the Construction category.

## Moving to the future

### Change of course

In October 2004 President and CEO Kjeld Kirk Kristiansen decided after 25 years in the post to hand over the reins to Jørgen

Vig Knudstorp. Kjeld Kirk remains deputy chairman of the Board of the LEGO Group. The change-over took place after Kjeld Kirk Kristiansen – over the preceding months and in conjunction with the new leadership team – had charted and initiated a change of course for the company with a view to restoring the profitability of the LEGO Group. One of the principal elements in the action plan which was set in motion is that in future the company will concentrate on its core business: toys. At the same time, costs have been cut generally, and the company is working intensively on efforts to improve relations with its customers, the retail trade. As far as consumers are concerned, the most visible changes have taken place in product development. New products and product lines have been centred on the classic product idea, the LEGO brick – and perpetual themes such as Town, Castle, Pirates and Vikings have received a new lease of life. In the process, production time from concept to final product on the retailer’s shelf has been dramatically reduced. The average period of development for a new product is now about 12 months.





## Shared Vision

The LEGO Group's strategy for the years up to 2010 goes under the name of Shared Vision. The strategy is made up of many components – but its core remains unchanged. The Group's aim is to:

- Be the best at creating value for our customers and sales channels.
- Refocus on the value of what we offer our consumers.
- Increase operational excellence.



The strategy underlines the continued importance of focusing on profitability within the organisation. The situation facing all toy manufacturers at present is that they are pressured from many quarters – by consumers, customers and competitors. The LEGO Group meets this challenge with a determination to bind consumers, fans and retailers even closer to the organisation.

At the same time, the Group will increasingly refine and improve its product range to enable its new products to compete, for example, with the many electronic products on the market.

It continues to be the LEGO Group's primary purpose to supply good, healthy play – developing children and helping them to face the challenges of tomorrow.



**Jørgen Vig Knudstorp,**  
**CEO**

*Jørgen Vig Knudstorp joined the LEGO Group in September 2001. From May 2002 he headed the LEGO Group's strategy department. From April to November 2003 he was acting Chief Financial Officer, and in November 2003 he became Senior Vice President and joined senior management, Global Management Team (now LG-LT), with responsibility for Corporate Affairs. In October 2004 became he CEO.*



**Kjeld Kirk Kristiansen**

*Vice Chairman of the Board since 1996. Member of the Board since 1975. Chairman of the Board of KIRK-BI A/S, the LEGO Foundation, Ole Kirk's Foundation, and Edith and Godtfred Kirk Christiansen's Foundation. President and CEO for the LEGO Group from 1979-2004. Majority shareholder of the LEGO Group.*



## LEGO products for all children

The range embraces products for all children. The entire product portfolio is graduated in its challenge to reflect the fact that children grow older and develop. Consequently, all children from 0-16 years can have meaningful enjoyment with LEGO play materials.

LEGO products can be grouped into a number of categories:

### Pre-school products

Pre-school products are the category for children who haven't yet started school. The products are specially developed to cater for the capabilities of the youngest children – encouraging them through creative play to use their hands and develop their motor skills. Today LEGO DUPLO comprises both loose bricks – encouraging the child to build entirely what comes into its mind – and play themes – for example, airport, train and castle. The series is graded in difficulty for children aged 2-6 years.

Safety and quality are key features of the Pre-school range. The elements are large enough for children under three years to play with without swallowing them – and thanks to the way they have been moulded no bits can become loose.

### Creative Building

Creative Building is the name given to sets or buckets with traditional LEGO bricks and special parts such as windows, wheels and roof tiles. No building instructions needed here – just a bit of imagination. With Creative Building you can build what you want. Run out of ideas? There are booklets enclosed – with illustrations to feed the active mind. Creative Building is available in DUPLO and standard LEGO bricks.

### Play themes

Play themes are all those products that are built up around a story. For example, there are themes such as fire station, police, airport, knights' castle, racers – and many more.

Another example is the BIONICLE universe, which has its own very special story.

As well as enjoying building, the child can spend many hours playing with the finished models.

### Licensed products

Licensed products are play themes based, for example, on movies or books for which the LEGO Group has acquired the rights. LEGO designers recreate the universe and characters in LEGO bricks so that play can continue on the floor at home.

Examples of series produced by the LEGO Group under licence are *Star Wars*<sup>TM</sup> and a Harry Potter range in LEGO bricks.

### MINDSTORMS NXT

With LEGO MINDSTORMS NXT you can design your own robot. By means of the software included in the set, robots can be programmed to perform loads of different operations.

The robot can be fitted, for example, with sensors which can control motors and react to light, sound, touch, etc.

### LEGO Education

LEGO Education products have been developed specially for the educational sector and contain material for both teachers and pupils. Pupils get the opportunity to do their own research, for example, into how cause and effect are related. When you learn by doing, you remember it better than if someone simply tells you. This is the philosophy on which the LEGO Education learning concepts are based.



## The minifigure

The first LEGO minifigure appeared on the market nearly 30 years ago. Since then the little yellow figure has gone from strength to strength. Over the years approx. 4 billion minifigures have been produced – making it the world's biggest population group!

The minifigure has appeared in many guises, including knight, astronaut, policeman, racing driver, *Star Wars* warrior, Harry Potter, Santa Claus, Steven Spielberg, crane operator, footballer, explorer, nurse, basketball player, Spider-Man, scuba diver, skier, firefighter, skeleton, pirate, skater, American Indian, queen ...

When the minifigure first appeared, it was decided that its face should have only one colour: yellow. And that its facial features should be happy and neutral. The figure would have no sex, race or role – these would be determined by the child's imagination and play.

It was not until the launch of LEGO Pirates in the 1980s that the need seemed to arise for having a figure would could be evil or good, happy or grumpy.

With licensed products such as LEGO *Star Wars* and LEGO Harry Potter the figure began appearing in specific roles, and with LEGO Basketball it took on authentic skin colours.

In 2004 the LEGO minifigure assumed an even wider range of skin colours when it was decided that the figures in licensed products should resemble the original characters as

closely as possible. One result was that the figures in LEGO Harry Potter changed from yellow to a more authentic skin colour.

### Minor and major steps in the history of the minifigure:

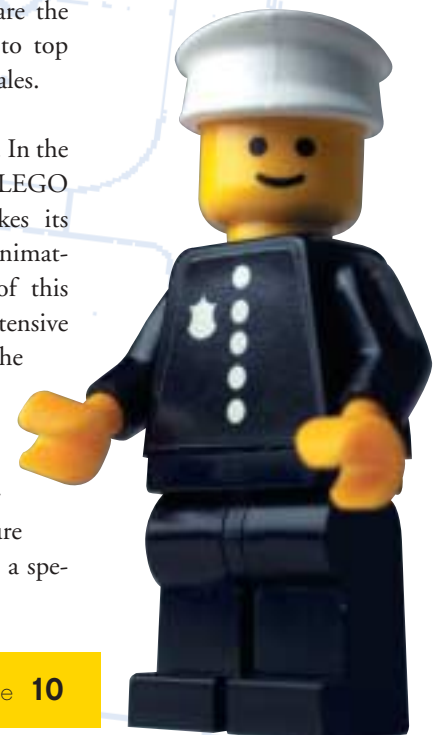
**1978:** The first minifigures are launched for the themes Town, Space and Castle. There were seven different figures to start with.

**1978:** Two months after the appearance of the first minifigures the first female minifigure arrived on the scene: a hospital nurse.

**1989:** Minifigures change their facial expressions. Now they can be either good or bad – and can even have a patch over one eye! Some of the figures are equipped with a wooden leg and hook. The Pirates are the first LEGO product range to top DKK 1bn (EUR 134m) in sales.

**1997:** The minifigure comes to life. In the computer game "Panic on LEGO Island" the minifigure makes its first-ever appearance as an animated character. The launch of this new game is preceded by extensive experiment in developing the figure's movements and language.

**1998:** With the new *Star Wars* characters the minifigure makes its first appearance in a spe-





cific role. This personification of the minifigure is later extended to LEGO Harry Potter, LEGO Studios, LEGO Basketball and other series.

**2000:** In LEGO Football the minifigure is mounted on a spring – becoming a functional element. There is further development with LEGO Basketball – when the spring is used to activate the figure’s hip movement.

**2003:** For the first time in the history of the minifigure its yellow facial colouring is replaced by a more authentic skin colour. In LEGO Basketball there are both dark and light players, with hair-styling printed on the character’s head.

**2004:** LEGO licensed products no longer have yellow faces – Harry Potter, for example, assumes a more natural skin tone.





## LEGOLAND Parks

**L**EGOLAND Parks are family parks in which children enter an exciting world of adventure built of LEGO bricks. The LEGO Group sold all four LEGOLAND Parks in summer 2005. The purchaser was Merlin Entertainments, a member of the Blackstone Group. A new company was set up under the deal: Merlin Entertainments Group, with Merlin owning 70% of the shares, the remaining 30% being held by the LEGO Group and Kirkbi A/S.

The decision to sell was made when the LEGO Group was in economic difficulties and because it was judged that all management resources should be concentrated on toy production if the Group was to regain its stability. And in 2006 that strategy looks as if it was the right one.

### The four LEGOLAND Parks

LEGOLAND Billund opened in 1968 and quickly became Denmark's most popular tourist attraction outside the capital, Copenhagen. LEGOLAND Billund has seven theme areas – and 50,000,000 LEGO bricks have been used to create the unique environment with knights, pirates, cowboys and other impressive LEGO models.

A second park was opened in 1996 – in Windsor in the south of England. LEGOLAND Windsor is located approx. 35 km west of London, with Windsor Castle as its nearest neighbour. The following year the park was hailed the most popular new attraction in Britain.

The third LEGOLAND Park opened in 1999 in Carlsbad, USA, 30 miles north of San Diego and an hour's drive south of Anaheim, California. Like the other LEGOLAND Parks, LEGOLAND California combines interactive attractions, family activities, shows, restaurants, shops and LEGO models. A total of 30,000,000 LEGO bricks were used to create the 5,000 LEGO models installed all over the park. The park is open all year round.

The fourth LEGOLAND Park opened in 2002 in Günzburg in southern Germany. A total of 50,000,000 LEGO bricks were used to build life-size giraffes and hippopotami, and interactive games and learning, attractions and shows all help give the visitor a fun and exciting experience. The park has more than 40 attractions plus a staff of 120 permanent and 600 seasonal employees.





## LEGO Community

Over the years enough LEGO bricks have been manufactured to give each of the world's six billion humans an average of 52 LEGO bricks. It is important to the LEGO Group to have close contact with its fans and consumers throughout the world. And to this end, the company engages in many initiatives to strengthen ties between LEGO enthusiasts and the company.

### LEGO.com

The aim of LEGO.com is to create a virtual LEGO universe in which users can enjoy one of the most intense LEGO experiences. LEGO.com is more than just a product catalogue. It is the place where children, parents and LEGO fans of all ages can play and learn about LEGO Group values and ideas through games, stories, activities and experiences.

LEGO.com now tops the list of family and children's sites on the Internet. More and more people are clicking their way to LEGO.com. In 2005 the website had an average of 6,308,558 individual visitors (hits) a month – which is 26% up on 2004.

The average website visit lasts an average of 6-7 minutes.

Shop at Home and LEGO Club online are the two main sites under LEGO.com. BIONICLE, Racers, Make & Create and Star Wars pages each attract about one million users a month. LEGO Factory is also climbing the popularity ladder. In December 2005 www.LEGO.com again featured on HitWise's Top 20 list of the world's best websites for children.

### LEGO Club

LEGO Club is for children in the 6-12 age group and has a membership of 2.3m. All members receive a bi-monthly magazine and have access to a special Internet website. The magazine is published in English, German, French and Japanese. Through the LEGO Club, members can show each other pictures of their favourite building work and draw inspiration for future play.

In 2004 a new club offer was launched in the US: LEGO BrickMaster, aimed at children aged seven years and upwards. The new offer is an option for the most enthusiastic members, who can have access to an even broader range of LEGO activities. For the first time, children can have a selection of LEGO products supplied regularly to their home address. In addition, they receive details of special competitions, information and behind-the-scenes LEGO stories.

### www.LEGOfactory.com

The LEGO Group now gives children the opportunity to build their own virtual models by computer – and have the physical LEGO model sent by post. At www.LEGOfactory.com children (and other building enthusiasts) can build virtual LEGO models using the professional software





application, LEGO Digital Designer. Consumers can design and build precisely the model they think is lacking from the official LEGO range. Each builder then decides whether he or she wants to buy the model or simply exhibit it in the digital gallery for other visitors to admire.

The aim of the website is to bring a whole new dimension to the experience of building with LEGO bricks. If children are looking for advice or ideas, they can see inspirational material at the site posted by LEGO designers and adult LEGO fans.

#### **LEGO Inside Tour**

Twice a year it is possible to join a very exclusive visit to the LEGO Group and be shown round the company. Enthusiasts from many different parts of the world take part in these unique events.

During the tour, visitors have close-quarter encounters with product developers, designers and modelmakers, who introduce the fans to a themed building competition with LEGO bricks. They also learn of the company's history, culture and values. There is after-hours access to LEGOLAND and general access to parts of the company otherwise closed to the public.

#### **Adult Fans of LEGO**

A growing number of adult LEGO enthusiasts have begun setting up groups to discuss their LEGO hobby. They call themselves "AFOLs" – "Adult Fans of LEGO". Over a period of years, the LEGO Group

has actively developed relations with many "AFOL" groups, who have their own websites, organise public events, and take part in LEGO development projects. In 2005 the LEGO Group announced its "LEGO Ambassador" programme for AFOLs worldwide. The purpose of this programme is to expand mutually useful relations between the LEGO Group and its loyal, talented and committed consumers.





## Learning through play

Research into the fields of play and learning has always been an important LEGO Group activity – combined with creativity it is referred to as “playful learning”. To advance this research, the Group works closely with several research institutes throughout the world. The development of MINDSTORMS NXT, due to launch in autumn 2006, is an excellent example of how collaboration with the Massachusetts Institute of Technology has resulted in a new, innovative product.

### LEGO Education

In the Group’s educational division, LEGO Education, playful learning is the focus of many products.

But although the products of the LEGO Education are based on the LEGO brick, the product range should not be mistaken for toys for schools. They are in fact a wide range of options for teachers and pupils, providing a good introduction to the learning of science concepts through practical exercises. All the concepts behind the products of the LEGO Education have been developed in close collaboration with educationists and teachers. The products have proved their usefulness especially in subjects in which pupils learn, for example, about technical principles, the environment or IT. LEGO Education is involved in many projects throughout the world often in conjunction with the local education authorities.

### FIRST LEGO League

FIRST LEGO League is a robotic tournament for children and youngsters aged 9-14 years. Teams are made up of 5-10 players, who compete against other teams in several fields. The children build their own robots, based on the LEGO MINDSTORMS Robotics Invention System™. Tournaments are held in collaboration with the US non-profit organisation FIRST (For Inspiration and Recognition of Science and Technology). The partnership inspires children and encourages their interest in scientific and mathematical/technical subjects.

The finals of the tournament in Atlanta, Georgia, in April 2006 saw 80 teams of children competing from 30 countries. They had been selected from among the 85,000 children who had taken part in the tournament.





## How LEGO bricks are made

**T**he LEGO Group manufactures bricks round the clock, seven days a week.

During the moulding process, the plastic is heated to 232°C until its consistency is about that of dough. It is then injected into the moulds at a pressure of 25-150 tons, depending on which element is being produced. It takes seven seconds to cool and eject new elements. Thanks to the accuracy of the moulding process, only 18 elements in every million produced do not meet the company's high quality standard. The moulds used in production are accurate to within two-thousandths of a millimeter (0.002 mm).

All LEGO elements are fully compatible, irrespective when they were made during the period from 1958 to the present or by which factory.

LEGO products must satisfy all market standards, regardless of where in the world they have been manufactured. In other words, all products must be able to satisfy all safety standards on all markets. This means that the LEGO Group's own standards are equal to the most rigorous requirements in force anywhere in the world.

## 915 million ways to combine six LEGO bricks

When people used to visit us at the LEGO Group, one of the things they were told was that there are 102,981,500 possible ways to combine six eight-stud LEGO bricks of the same colour. But one day the Group was contacted by a professor of mathematics who had calculated that this figure was too low. With the aid of computer programming he had calculated that the exact figure was 915,103,765.

The discrepancy is explained by the fact that in the original method of calculation, the only possibilities counted were the ones that eventually produce a column six bricks high. But, of course, it is also possible to build the six bricks – for example – in a chunk three bricks high. The difficulty in the early 1970s was that a computer was not available to perform that calculation.

The correct figure is therefore more than 915 million possibilities.



*There's a big difference between building only a tower six bricks high ...*



*... and including all the possibilities you get when you build a structure sideways three bricks high.*



## Selected LEGO statistics

- More than 400,000,000 children and adults will play with LEGO bricks this year.
- LEGO products are on sale in more than 130 countries.
- If you built a column of about 40,000,000,000 LEGO bricks, it would reach the moon.
- Approx. four LEGO sets are sold each second.
- The eight robots at work in the LEGO brick warehouse in Billund can move 660 boxes of elements an hour.
- The King's Castle at LEGOLAND Billund cost DKK 45,000,000 to build. The external decoration required 160 tons of crushed granite and 150 tons of boulders. The King's Castle was built in only eight months – the fastest-built castle in Denmark.
- The large Dockosaurus making up part of the water roller-coaster in LEGOLAND Germany required 90,750 LEGO elements and weighs a total of 262 kg.
- The world's children spend 5 billion hours a year playing with LEGO bricks.
- There are 915,103,765 different ways of combining six eight-stud bricks of the same colour.
- On average every person on earth has 52 LEGO bricks.
- With a production of about 306 million tyres a year, the LEGO Group is the world's largest tyre manufacturer.
- If all the LEGO sets sold over the past 10 years were placed end to end, they would reach from London, England, to Perth, Australia.
- The largest model at LEGOLAND Windsor is the Technosaurus, which consists of more than one million bricks. And the smallest? A pigeon on Trafalgar Square.
- In the manufacture of LEGO bricks the machine tolerance is as small as 0.002 mm.



## Using the LEGO brand name

Help us to protect our brand name:

- The LEGO brand name should always be written in capital letters.
- LEGO must *never* be used as a generic term or in the plural or as a possessive pronoun, e.g. "LEGO's".
- When the LEGO brand name is used as part of a noun, it must never appear on its own. It should always be accompanied by a noun. For example, LEGO set, LEGO products, LEGO Group, LEGO play materials, LEGO bricks, LEGO universe, etc.
- The first time the LEGO trademark appears it should be accompanied by the registration symbol ®.

Thank you for helping us!

LEGO® is a brand name and the property of the LEGO Group

© 2006 The LEGO Group

