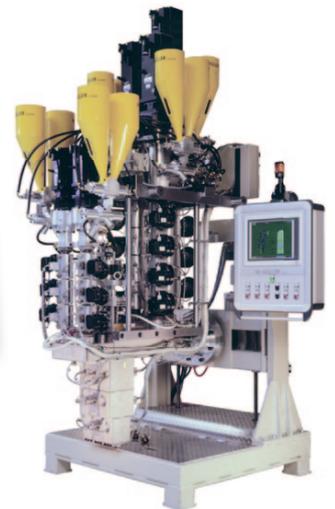


40 Years of W. MÜLLER

# Remembering four exciting decades



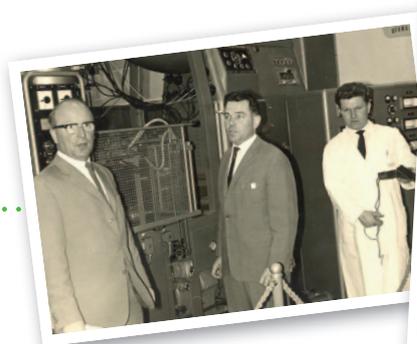


It's a pleasure to have you with us today —  
greetings from the management

W. MÜLLER KG – the company name at the time – was founded in the middle of the wild seventies. Starting in Lohmar-Donrath in 1976, today we can look back at 40 years of experience, quality and reliability in the area of blow molding technology. Together with you, we would like to celebrate our anniversary and maybe share some fond memories.

Your Müller family

1976-2016



... 1976 ...



*Willi Müller, Karin Müller, and  
Heinz-Josef Brühl found  
W. MÜLLER KG in Lohmar-Donrath*

Our success story begins in

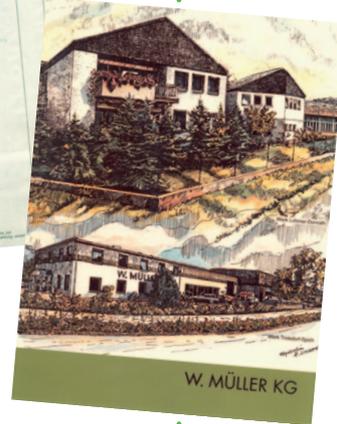
# 1976: The Founding Year

Travel with us back in time and discover how our company developed, remembering also some history of the last 40 years

Several prominent personalities were born in 1976, such as Wladimir Klitschko, Ryan Reynolds, and Michael Ballack. But what else happened in 1976? 1976 was the year when the movie "Rocky" was released in theaters, which paved the way for 30-year-old Sylvester Stallone's international breakthrough as an actor. On July 20, a NASA spacecraft lands on Mars for

the first time and the Concorde takes off as the first commercial aircraft capable of traveling at supersonic speed.

Steve Jobs and Steve Wozniak started some kind of fruit company in April 1976 and two months later Willi Müller, Karin Müller, and Heinz-Josef Brühl found W. MÜLLER KG in Lohmar-Donrath. Four thrilling decades begin ...



Headquarters in Lohmar-Donrath

The production facilities in the 80s



The flood in March 1981 almost reached our production facilities

Hunkar Programming Station – the distribution of these devices from the US was one of the first business divisions here in Germany



1976 – 1985

# The Wild Seventies

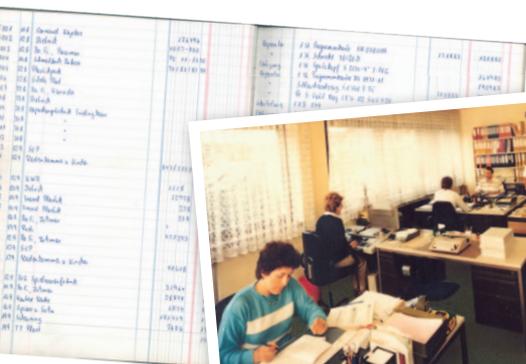


For Germany, the decade between 1976 and 1985 resulted in a number of cultural and sports highlights.

In 1977, the movie "Saturday Night Fever," starring John Travolta, triggers the disco wave and Alice Schwarzer brings the magazine "Emma," the front page of feminism in German-speaking Europe, to kiosks. Germany wins the Eurovision Song Contest for the first time in Harrogate in northern England with "Ein bißchen Frieden" by Nicole in 1982 and Boris Becker becomes the youngest Wimbledon champion in men's singles in 1985.

For W. MÜLLER, it is a decade marked by steady development. In addition to the supply of high-quality, low-maintenance, and operator-friendly products, great value is placed on the associated customer service. The company's success is proof that the business strategy of founders Willi and Karin Müller and Heinz-Josef Brühl was the right approach: W. MÜLLER celebrates its 10-year anniversary in 1986.

*At the end of the wild 70s, Germans are "put on a leash": The year 1976 begins with a groundbreaking innovation for drivers – the seat belt law is implemented in West Germany.*



.....1984.....

Office in  
Lohmar-Donrath

Design and production  
of the first extrusion head (PVC)





According to the manufacturer, the modern telephone and its appealing design makes every workplace friendlier –  
 “The body is unbreakable, and the technology is perfect.”  
 Even W. MÜLLER is a proud owner of the device.



## The 70s

### Word of the Year

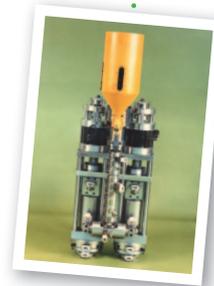
For the first time in 1971, and regularly from the year 1977, the „Word of the Year“ is chosen.

- 1977: Scene
- 1978: Conspirative apartment
- 1979: Holocaust
- 1980: Dragnet investigation
- 1981: Zero option
- 1982: Dog-eat-dog world
- 1983: Hot autumn
- 1984: Green car
- 1985: Glycol



In the last ten years, we have designed and produced an average of 120 extrusion heads per year at W. MÜLLER. We have built a total of around 3,600 extrusion heads, including:

3- to 6-layer co-extrusion	<b>287</b>	view stripes	<b>886</b>
ReCo	<b>298</b>	extrusion heads with	
DeCo	<b>381</b>	melt accumulators	<b>63</b>
PVC	<b>575</b>	color gradation	<b>16</b>



Design and production of the first view stripe head



Christian Müller is always on stand by – just like his father in the 60s, who as a technician slept on an air mattress next to the machine

## 1985

Introduction to CAD technology



### Gas prices in 1976

Regular 0.91 D-marks/liter  
 Super 0.94 D-marks/liter  
 Diesel 0.75 D-marks/liter

1986 – 1995

# Spirit of Optimism

The next decade is very much formed by politics.

The fall of the Berlin Wall at the end of the 80s goes down in history just like the 1994 election of Nelson Mandela as the first black president of South Africa, which sealed the end of the Apartheid.

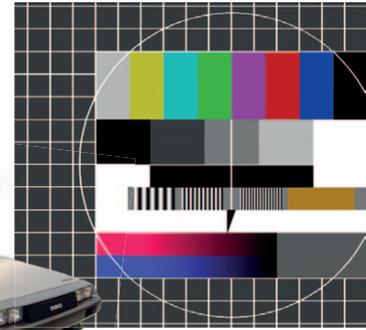
The politics of the time did not have a big impact on W. MÜLLER, but nevertheless this was a very exciting time for the company: In 1994, the first technical center machine is built, and in 1995 manufacturing is relocated

from Donrath to Troisdorf-Spich with the purchase of a larger production facility. In 1996 – the 20-year anniversary of W. MÜLLER – a comprehensive technical research center is also established in Lohmar-Donrath with a co-extrusion blow molding machine which was designed and produced in-house.

This year also marks the first in which fresh bread rolls can be sold on Sundays in Germany. Perhaps this is due to the fact that all the bread rolls are

always sold out on Saturdays.

W. MÜLLER GmbH alone bought a total of 8,000 bread rolls between 1986 and 1995. Manager Karin Müller, with the help of Brigitte Müller, prepared all 16,000 bread roll halves herself for employees working on Saturdays. "And they had to be topped well. It was completely unacceptable to see the edges of the bread," Karin Müller remembers.

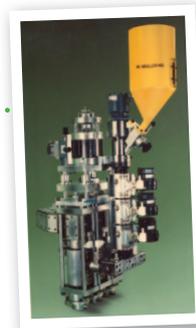


1987

*Design and production of the first accumulator head*

1989

*Design and production of the first DeCo head*



1990

*Design and production of the first ReCo head*



The gaming age begins with the pocket-sized Nintendo Gameboy in 1989.

On TV "Die Schwarzwaldklinik" (German TV show) captivates millions.

Whoever is up for an adventure travels "Back to the Future" with the DeLorean.



The Berlin Wall falls on November 9, 1989. East Germany opens its border crossings to West Germany; thousands of people pass through the inter-German borders on the same day.



Design and production of the first S12 head



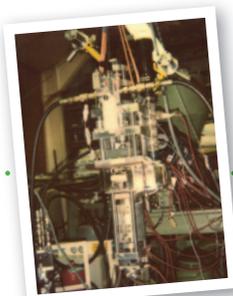
1995

Relocation from Donrath to Spich and purchase of a larger production facility



1994

Construction of the first technical center machine



1992

Design and production of the first co-extrusion head

1993

Design and production of the first multi parison head with melt accumulators

The 80s

Word of the Year

- 1986: Chernobyl
- 1987: Aids, condom
- 1988: Healthcare reform
- 1989: Freedom of travel
- 1990: The new German states
- 1991: West German smart-ass
- 1992: Political apathy
- 1993: Reduction of social benefits
- 1994: Super-election year
- 1995: Multimedia



Gas prices in 1986

- Regular 1.34 D-marks/liter
- Super 1.41 D-marks/liter
- Diesel 1.23 D-marks/liter

1996 – 2005

# A Thrilling Decade



Angela Merkel becomes the first female German Chancellor, Germany wins the Soccer World Cup, and Willi Müller receives the Lifetime Achievement Award for his life's work.

W. MÜLLER USA Inc. is founded in 1997, and a year later the company name is changed from W. MÜLLER KG to W. MÜLLER GmbH.

The high demand for our high-quality products leads to the construction of an additional floor in Spich in the year

2000, which is exclusively reserved for design. In 2002, the product range is expanded with the development and construction of horizontal extruders.

Two years before the company's 30-year anniversary – in 2004 – W. MÜLLER USA Inc. expands and

purchases a building to house a technical research center for mold sampling using up to 7-layer co-extrusion.

In addition, it is decided in Germany to merge operations in Lohmar-Donrath and Troisdorf-Spich by purchasing a larger building in Spich, and the sec-

.....1996.....



*A comprehensive technical research center is established in Lohmar-Donrath with a co-extrusion blow molding machine which was designed and produced in-house*



.....1997.....

*Founding of W. MÜLLER USA Inc.*

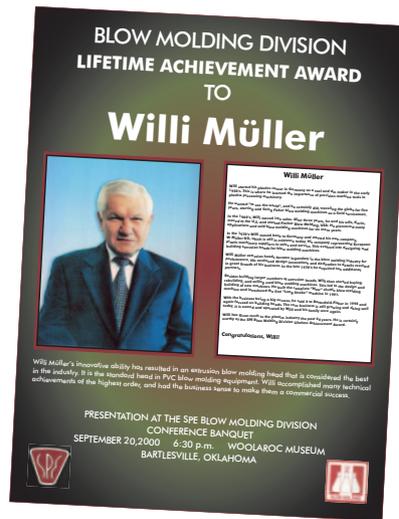


In 2005 Angela Merkel becomes Chancellor of Germany and Cardinal Ratzinger is elected Pope Benedict.



Mobile phones become more and more popular in the middle of the decade. Which around 1997 or 1998 starts a new era of communication: Text messages. At the same time, hundreds of thousands of Harry Potter fans begin their trip to Hogwarts.

ond technical research center machine is built. In the same decade, company founder Willi Müller is recognized for his life's work with the Lifetime Achievement Award by the Society of Plastics Engineers.



## The 90s

### Word of the Year

- 1996: Austerity package
- 1997: Reform jam
- 1998: Red-green
- 1999: Millennium
- 2000: Black money affair
- 2001: September 11
- 2002: Teuro (expensive Euro)
- 2003: Old Europe
- 2004: Hartz IV (unemployment benefits)
- 2005: Female Chancellor of Germany



### Gas prices in 1996

- Regular 1.56 D-marks/liter
- Super 1.61 D-marks/liter
- Diesel 1.21 D-marks/liter

1998

W. MÜLLER KG becomes W. MÜLLER GmbH

2000

Willi Müller receives the Lifetime Achievement Award



*W. MÜLLER expands. W. MÜLLER USA Inc. purchases a building to set up a technical center for mold sampling using up to 7-layer co-extrusion. In Germany, the operations of Lohmar-Donrath and Troisdorf-Spich are merged by purchasing a larger building in Troisdorf-Spich "Am Senkelsgraben."*

### Girl Power throughout the World—even at W. MÜLLER.

From a historical standpoint, the time between 1996 and 2005 is the Decade of Women: It's not just that women are now trained in the Bundeswehr (German armed forces) for the first time and Jutta Kleinschmidt wins a male-dominated sporting event, the Dakar Rally – women are also elected as head of state in more and more countries, whether Angela Merkel in 2005

as the first female Chancellor of Germany or Ellen Johnson-Sirleaf as the first female president of Liberia.

W. MÜLLER GmbH also moves with the times: In addition to Karin Müller, her daughter Brigitte Müller has worked for the traditional family business as a business manager since 2004. ▶

2000

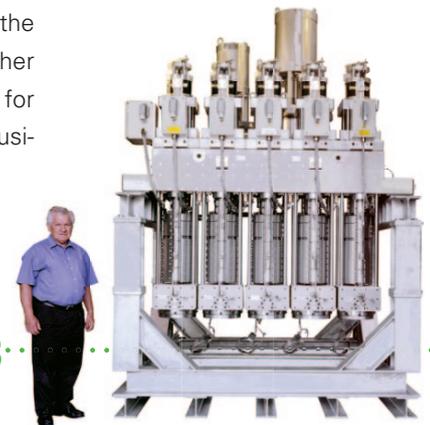
*Building of an additional floor in Troisdorf-Spich exclusively for design*

2002

*Expansion of the product range through the development and the construction of horizontal extruders*

2003

*Design and production of the first quintuple DeCo head with melt accumulators*





*"Belgische Allee" location continues to be used; here the office building received an additional floor (from left to right).*

*Design and production of the first color gradation head*



*Design and production of the first horizontal extruder with a platform*

► Then a summer fairy tale is celebrated in 2006 with the FIFA World Cup in Germany – and along with record high temperatures throughout the country – W. MÜLLER celebrates its 30th anniversary.

*Did you Know?*

*Over 620 mold and material samplings have been performed for customers or for the company's own development projects since 1997 – with a total of around 750,000 bottles produced for our customers and around 100,000 bottles produced for our own purposes. In addition, we have produced around 50,000 piggy banks or small money bags for local clubs, mostly carnival clubs.*

**2005**



**2004**

*Expansions at W. MÜLLER – in the US as well as in Troisdorf-Spich. The construction of a second technical center machine was carried out in the same year.*



*Now Brigitte Müller serves as business manager and Dipl.-Ing Christian Müller serves as technical manager alongside founders Willi and Karin Müller to ensure the continued success of the company.*

*In the new millennium, social networking increasingly gains popularity. The online encyclopedia Wikipedia increasingly displaces traditional encyclopedias and Barack Obama becomes president of the United States in 2009.*



2006 – 2016

# In the New Millennium

*A decade full of records follows between 2007 and 2016.*

2007 begins with record spring temperatures of more than 30 degrees Celsius in April, in 2009 the construction of the highest skyscraper with a record height of 828 meters, Burj Khalifa in Dubai, is completed, and a year later the movie "Avatar" breaks all box office records with its new 3D technology. In 2012, the painting "The Scream" is auctioned at the record price of 119.9 million dollars and drivers see record prices at the pumps of up to 1.598 Euros per liter of

Super E10—the most expensive year for gas according to ADAC (German automobile club).

And what did the last decade bring for W. MÜLLER GmbH?

In 2008, the technical research center in Troisdorf-Spich is expanded with a second, a double station machine, and the center moves into its own facility. The acquisition of a turn-mill center a year later simplifies and accelerates the processing of parts with a complex ge-

ometry. As of 2011, the expansion of our production facilities with a large CNC lathe and a 5-axis milling center finally allows the all-round machining of large parts of up to 2.5 tons.

On November 14, 2013, senior partner and company founder Willi Müller dies at the age of 76. Everyone who got to know him understands how much passion and commitment he dedicated to his business and how much he cared for his employees. The family



**2007**

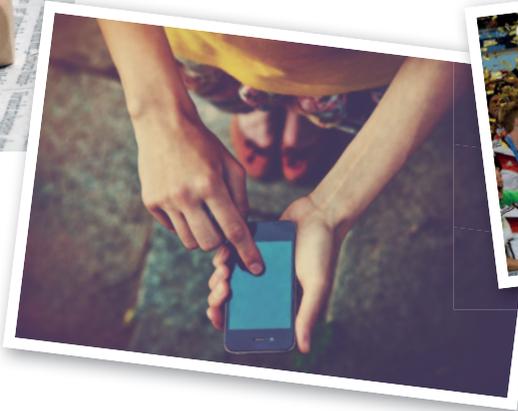
*Design and production of the first SeCo head*

**2008**

*Expansion and relocation of the technical center to Troisdorf-Spich*

*Design and production of the first S1/400 head for large containers, such as drums and IBC's*





is moved by the amount of compassion shown all over the world – over 500 friends and customers from all over the world pay their last respects to him. In April of the following year, Willi Müller is posthumously inducted into the “Plastics Hall of Fame” by the “Plastics Academy.” For his extrusion heads, which revolutionized the blow molding industry, he is now immortalized here with other pioneers in plastics including Earl Silas Tupper, the founder and inventor of the world-famous Tupperware.



*WM GmbH completely achieves its female quota: 2/3 of the business management team is female.*

## 2009

*Acquisition of a turn-mill center; here is a view of the production area*

## The 2000s

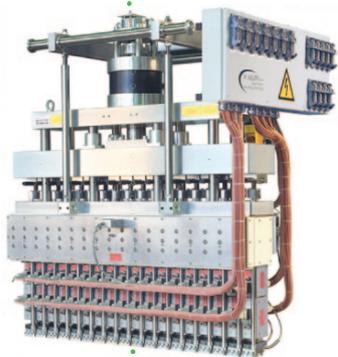
### Word of the Year

- 2006: *Fan fest*
- 2007: *Climate catastrophe*
- 2008: *Financial crisis*
- 2009: *Scrapping premium*
- 2010: *Enraged citizen*
- 2011: *Stress test*
- 2012: *Rescue routine*
- 2013: *Grand coalition*
- 2014: *Border of lights*
- 2015: *Refugees*



### Gas prices in 2006

- Regular 1.32 Euro/liter
- Super 1.34 Euro/liter
- Diesel 1.13 Euro/liter



2009

*Design and production of the first S18 head*



2011.....2013.....

*Expansion of our production facilities with a large CNC lathe as well as a 5-axis milling center*

## W. MÜLLER. Experience, Quality, and Reliability.

In the last 10 years, we have designed and produced an average of 120 extrusion heads per year that way. Since the company's founding, over 3,600 extrusion heads have been produced, 886 heads alone with view stripes, 575 made for PVC, and nearly 300 for CoEx applications.

In the meantime, our enormous experience in the area of multi-layer extrusion for hollow parts makes us the leading global provider of 3- to 6-layer heads for generating hollow plastic parts with a barrier function.

In the area of innovation, we take tremendous pride in our ability to offer you products with a foam center layer after an intensive development effort.

*Did you Know?*

*Employment at W. MÜLLER:*

*Number of workers including company management: 72*

*Of which have been with us:*

<i>40 years:</i>	<i>1</i>
<i>Over 30 years:</i>	<i>8</i>
<i>Over 20 years:</i>	<i>15</i>
<i>Over 10 years:</i>	<i>14</i>
<i>Less than 10 years:</i>	<i>34</i>



*On November 14, 2013, Willi Müller dies at the age of 76*



## And Last but not Least – A Word of Gratitude

Since 40 years are we developing future-oriented products and solution in extrusion blow molding technology. We are proud of:

- More than 850 satisfied customers worldwide
- 72 solution- and customer-oriented workers with years of expertise
- Over 3,600 extrusion heads produced
- Over 1,500 produced extruders in various sizes and designs
- More than 4,100 complete systems and single solutions implemented
- Around 2,000 training programs, maintenance services, and expansion services performed
- 100% production depth

This would not have been possible without you.



**Therefore, we would like to thank all of our customers, suppliers, and partners, and especially our employees from all four decades for the amazing years and wonderful collaboration!**



*Then and now:  
W. MÜLLER  
will be at the K' –  
We look forward to  
seeing you again  
in Düsseldorf!*



**2014**

*Willi Müller is inducted  
into the Plastics Hall of  
Fame (posthumously)*



**2016**

*W. MÜLLER  
celebrates 40-year  
anniversary*

*Our 2016 highlight:  
Foamed bottles*



## W. MÜLLER GmbH

Am Senkelsgraben 20  
53842 Troisdorf-Spich  
Germany

Telephone (+49) 2241 9633 - 0  
Fax (+49) 2241 9633 - 96  
E-Mail: [info@w-mueller-gmbh.de](mailto:info@w-mueller-gmbh.de)

**[www.w-mueller-gmbh.de](http://www.w-mueller-gmbh.de)**

## W. MÜLLER USA Inc.

1163 Suffield Street  
Agawam, MA 01001  
USA

Telephone (+1) 413 787 - 0664  
Fax (+1) 413 787 - 0642  
E-Mail: [info@mullerheads.com](mailto:info@mullerheads.com)

**[www.mullerheads.com](http://www.mullerheads.com)**