



MARCH 2016

Thermaflex

Taking care of energy and the environment

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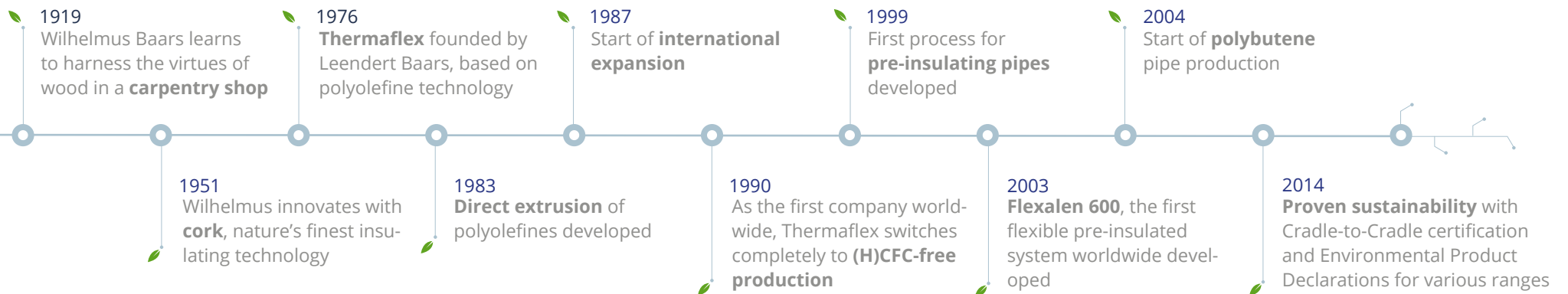
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Minimize the waste of energy, maximize the use of renewables

Existing and developing societies are in need of sustainable solutions for energy and water. Together with our stakeholders, we help build systems for future generations. In everything we do, we are inspired by nature. As it is always systemic, smart and efficient in its solutions.



Our Philosophy

Taking care of energy and the environment

Energy and water are a necessity in the built environment. They are a basic right for everyone.

We have the knowledge and experience to provide systems to distribute these vital elements efficiently, and smartly. In a manner that is convincingly different and will serve society far into the future.

Today Thermaflex is a source of energy to many people. From the team that is running its every day operations to the business partners and customers with whom we share values and create smart energy saving solutions.



Our Inspiration

We are inspired by nature in the way that it provides protection without a depletion of resources. Always in full symbiotic harmony with its surroundings, creating a circular state of existence.

Our designs and systems contribute to the circular economy; they are recyclable and serve the transition to renewable energy. Responsible processes demand a minimum of resources for maximum benefit.

At Thermaflex we like to think in solutions rather than in products. Our research and development aims at the specific needs of our customers and end-users. We build close relationships with our stakeholders, creating optimal solutions in cooperation and co-creation with each other.

Let's join forces to take care of...

Our resources

The growing scarcity of resources is one of the major challenges in the world today. We believe a solution can be found in the **circular economy**.

Our long term ambition is to reclaim all **materials** and close the loop. This requires a constant drive for improving efficiency, longevity and waste reduction for our systems as well as in our processes.

Our contribution to **water** scarcity and quality lies in delivering leakage-free systems for drinking water and/or sanitation purposes, and reducing and reusing water in our production facilities.



Our ecosystems

Taking care of our ecosystems, spanning generations, drives us to work together in symbiotic harmony. We aim for maximum benefit for all our stakeholders.

We develop maintenance-free and easy-to-install systems to connect demand for cooling & heating with supply, while lowering energy costs and contributing to green **communities**.

We can only be successful in our mission by working together with like-minded partners throughout the complete **value chain**.

Our climate

Our major aim is to reduce CO2 emissions by maximizing the use of renewables and minimize the waste of energy.

Renewable resources are often locally available, reducing dependency on external suppliers. We facilitate the use of renewables in our operations wherever possible.

We are continuously improving the **energy performance** of our systems and solutions. In our own organization, in-house programs result in higher energy efficiency and operational excellence.

03. TECHNOLOGY



Networks

Connecting the source and users of thermal energy in the most responsible way requires fast, durable and efficient systems which also need to be adaptive to the local circumstances, choices and expectations. Whenever energy is needed in several locations, networks are necessary to serve those needs.



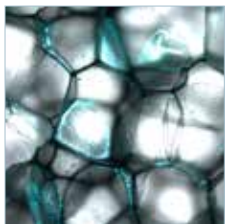
Branches

We develop smart solutions for thermal energy distribution. Flexible, state-of-the-art pre-insulated pipe systems and pre-fabricated branches connect internal components, and buildings with energy sources. For our own processes and buildings, we are always in search for efficient and renewable resources - we take that responsibility seriously in our chain, branch and markets.



Veins

Different communities and building conditions require specific networks to serve them. This is why various trees, such as the oak, have developed different branches and leaves. They are perfect examples of robust networked systems that at the same time are natural, elegant and fail safe. Our 'high-energy' teams are highly dedicated to the creation of smart energy solutions.



Cells

The cell structure of our polyolefin foams closely resembles the structure of the bark of the oak tree. Flexalen and prefabricated branches are insulated and protected, yet flexible and durable like the trunk and branches of the tree. In retrospect, the invention of these products and components were an absolute breakthrough. It did not only change our business, it also changed us.



Street in a Day

We broke the world record for the implementation speed of a district heating network, connecting an entire street in just a single day? That includes trenching, laying, connecting, and closing – all in just 1 day, securing access for residents by sunset.



District Heating and Cooling



How to achieve sustainable goals in cities



Eco Quarters

How to become a top-ranking Eco City



Group Heating

Better for budgets. Better for the environment



City Heating and Cooling

Valuable living at minimal cost



Renewable DHC

Renewable energy and DHC: the perfect couple

Industry



Levers for change – energy efficiency as a key resource



Shipbuilding Industry

Set sail for tomorrow with smart and sustainable shipping solutions



Food Industry

Nourishing ingredients for high standard food production

Government & Municipality



Energy and sustainable development: an open door



Schools & Universities

Greater comfort for greater learning

Our Impact

In 2015 Thermaflex connected

23,000 buildings



and served

2,500 communities



Commercial



Future-proofing your business: a sweet deal



Data Centers

Cool data = Safe data



Supermarkets

Keep it fresh



Office Buildings

A comfortable workplace works better

Agriculture



Renewable energy in agriculture: a natural fit



Biogas

Cultivating green comfort at home



Biomass

Efficient biomass for clean, cheap, and sustainable energy

Hospitality



Harmonizing comfort, capital and climate



Hotels

Where comfort meets savings



Thermal Centers

Hot rocks in a cool solution

Certified B Corporation



Thermaflex North-West Europe and Thermaflex North-East Europe are Certified B Corporations, using business to bring social and environmental change. In 2015, the former was honored as 'Best for the Environment', scoring in the top 10% of all Certified B Corps in this impact area. For this we were recognized by Forbes

Residential



Building (for) the future: smart and sustainable homes



Single Family Houses

Strike home with efficient convenience



Apartment Blocks

Sustainable building: a better future for all



Rural Communities

Think local, heat local



Attached Houses

Bringing homes and heat together



Cooling

Keep a cool head

Solar Heating

Make heat while the sun shines

Refrigeration

Where temperature control is a lifeline

Space Heating

Profit like it's hot

Hot and Cold Tap Water

Water. The basis of life

Sanitary

Comfort around the clock

Heatpumps

Prime your pump

Renovation



Closing the gap... and beyond

Expansion



Sustaining comfort for an expanding world

New construction



Breaking valuable new ground

Street in a day



Future-proof district energy networks in split second



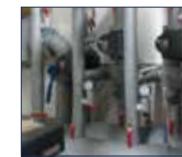
Underground

Flexible solutions for generations to come



Cooling & Chilled Water Insulation

Premium condensation prevention with added bonus



Heating Insulation

Save your comfort, comfort your savings



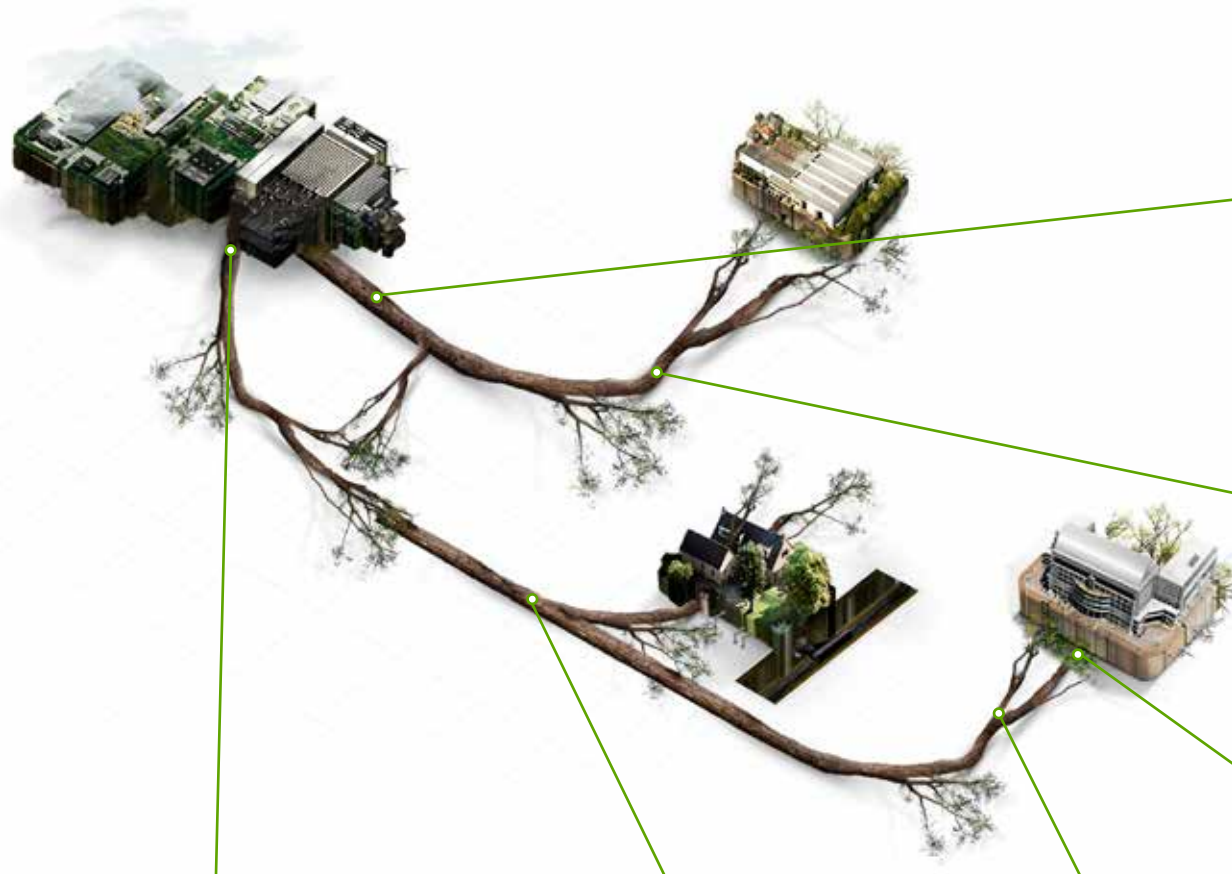
Indoor Chilled Water

Sustainable networks to keep it cool



Ducting

Better air, better economy, all-in-one.



Protectube
Universal ducting



Pre-insulated Pipes
Sustainable thermal networks
for decades of service



Flexanet
Securing tomorrow with
ready-made district networks



Flexalink
Revolutionizing connection
technology



**Customized
Connections**
Smooth the way



Joining Technology
Let's connect

07. COMPONENTS



Solar

Banishing the clouds



Heat Recovery Ventilation

A breath of fresh air



Electro

Safer pipes for safer buildings



Insulation

Future-proofing your energy



Carrier Pipes

Expect 100 years of reliable service



08. CASE STUDIES



📍 Stadium FC Spartak in Moscow



📊 STATISTICS

46,000 fans
enjoying the game
10,000 m²
of sheet insulation used
40,000 MWth
energy saved yearly

📍 Purmerend, Netherlands



📊 STATISTICS

4,000 homes
reconnected
50,000 tons
of CO² saved
84%
cut in unplanned maintenance
50%
cut in water supply
10%
cut in heat loss
900 steady jobs
created

📍 Park Hyatt in Goa



📊 STATISTICS

21,900,000 l
of chilled water saved per year
27,500 m
of pre-insulated pipes
14,000 m
of ThermaSmart PRO insulation

📍 Westin Playa Bonita in Panama



📊 STATISTICS

620 rooms
on
23 floors
including
6 auditoriums
and
4 restaurants
supplied with sustainable cooling
and heating, chilled and hot
potable water
0 incidents
recorded since project completion

Purmerend's network resurrection

📍 Purmerend, Netherlands

District Heating 2.0

The district-heating network in Purmerend is situated in an area with a high ground water level, so the old steel pipes of the district heating network suffered heavily from the corrosion that resulted from this, and its damage to the insulation. This emphasized the need to switch to plastic pipes. Purmerend also wanted to make the district heating network sustainable, yet economical. They wanted to be prepared for the future, when they would like to use biomass and geothermal energy for heating purposes. Their major problem: connections located in difficult crawling spaces underneath the houses where Dutch legislation does not even allow for steel welding.

Goals

A fast renovation was needed to keep the downtime of the heating/hot water supply short. Speed and space conditions were crucial to keep the disturbances to a minimum for the local government and the residents of Purmerend. The existing district heating network in Purmerend failed to meet the performance demands, so the focus was laid on improving heat loss and securing a full-proof and hassle-free district heating network.

Main advantages for SVP:

- Joint development of a renovation concept avoiding open flame connections in the crawl spaces
- Development of a high-speed installation concept
- Tailor-made Flexalink for quick, easy, and secure house connections
- Installation trainings and on-site supervision for HAK (pipe installers)
- Project preparation (material lists, network design, logistics)
- Pre-fabricated and customized supply of materials

For a detailed overview of all our case studies, go to www.thermafex.com

Results

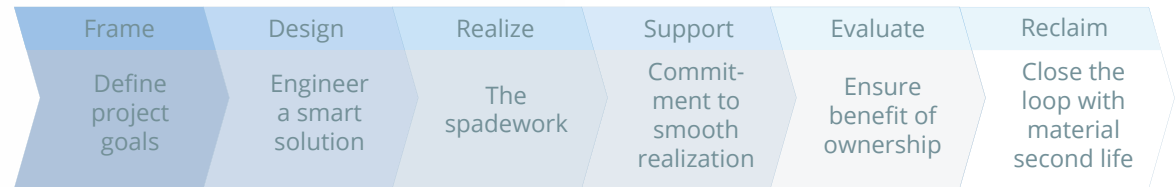
An exceptionally fast connection of about 4,000 houses meant there was very little disturbance for the local residents. Initially, they had been particularly sceptical due to the earlier issues with the network, but ultimately they were positive and grateful of the renovation project once the results became clear.

Precise pre-fabrication per section made it particularly easy for the installer to plan the implementation and reduce time and space requirements. Complaints quickly dropped and the maintenance scheme of the network drastically changed, as maintenance was minimized.





Our process



A customized approach

No two projects are the same. But after seeing thousands of them around the world, we know what makes them a sustainable success. Your specific projects goals come first and act as the 'yardstick' throughout the project. Our very best engineers design the best possible solution and calculate optimal routing and dimensioning; fast implementation and lifecycle performance are always on the top of their minds. Once full alignment on all aspects of the project is reached, it's time for implementation.

Our tools, training and on-site support ensure a smooth implementation of the project. We are only happy when you are. All that's left for users and owners is to enjoy affordable and headache-free comfort for generations to come. After that, safe and efficient reclaim secures the renewed purpose of our carefully selected materials.

Your very own thermal energy expert

Team up today with our highly dynamic, and professional team of experts and engineers. Our solutions have proven successful in any climate, situation or working conditions. Locally, our teams of professionals across the globe are ready to cater for your needs, from Panama to Siberia.

What goals do you want to achieve?

- ✓ Cost control
- ✓ Operational efficiency
- ✓ Installation ease and speed
- ✓ Energy saving
- ✓ Environmental capital
- ✓ Life expectancy

CALL US





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