

TAMPERE REGION

# FACTS & FIGURES

Essential information on the City of Tampere and the Tampere Region

# 2010

Lasers  
Energy Technology  
Digital  
Hydraulics  
Intelligent  
Machines  
UBIQUITOUS  
COMPUTING  
Nanotechnology  
TISSUE ENGINEERING  
BIOTECHNOLOGY

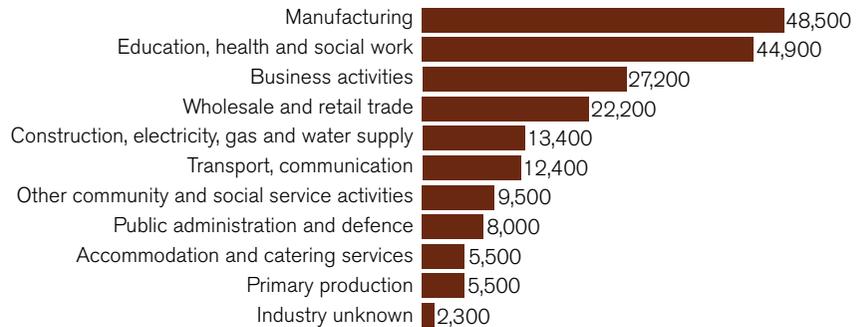
## One of Finland's fastest developing regions

■ ■ ■ The City of Tampere is the third largest city in Finland, and the Tampere Central Region – comprising Tampere and the neighbouring municipalities Kangasala, Lempäälä, Nokia, Orivesi, Pirkkala, Vesilahti and Ylöjärvi – is the second largest growth centre in Finland with 350,000 inhabitants. 480,000 people live in the Tampere Region as a whole.

Some 10,000 non-nationals live in the Tampere Region. The foreign languages most spoken are Russian, Arabic, English, Estonian, Persian and Chinese.

■ Two thirds of Finns live within a two hundred kilometre radius of Tampere.

### Jobs in the Tampere Region by industry



### Revenue of the main branches of business

The total revenue of all branches of business in the Tampere Region is 30 billion euros. Industry accounts for 44% of this revenue (technology industry 25%, forest industry 7%, chemicals, rubber and plastic products 5%), trade for 28%, services 16% and building 8%.

The largest private employers include Nokia, Metso, UPM, Metsäliitto, Saarioinen, Pirkanmaan Osuuskauppa and Nokian Tyres.

There are some 30,000 places of business in the Tampere Region. The GNP at market price per inhabitant is approximately EUR 30,500. The BKTA index (EU 27=100) is 112.3.

## pioneering spirit

■ ■ ■ The heart of the region, the City of Tampere was founded by King of Sweden **Gustav III** in 1779. Tampere has been an industrial pioneer, and by the beginning of the 20<sup>th</sup> century was the largest industrial city in Finland.

■ Finland's first paper mill started operations in 1783

■ Finland's first large-scale industrial enterprise, the cotton factory by **James Finlayson**, was established in 1820

■ The first electric light in the Nordic countries was lit in Finlayson's contemporarily high-tech production facilities in 1882

■ The manufacturer of grinding machines and water turbines Tampereen Pellava- ja Rauta-Teollisuus Oy (Tampella) was established in 1861

## WORLD'S FIRST

### High-tech innovations from Tampere include

- NMT phone call 1974
- biodegradable implant 1984
- electromechanical film 1985
- GSM phone call 1991
- walking forest machine 1995
- internet phone call 1995
- Personal Digital Assistant 1996
- game and image phones 2001
- fog screen 2003
- automated container terminal 2004
- preservative-free prostaglandine eye-drop for glaucoma treatment 2008
- new jaw bone from patient's fat cells was grown using stem cell technology 2008
- antibiotic-releasing biodegradable implant 2009

### Innovative thinking:

Ski jump performance measured by the smart boot ■ A biodegradable ecological tee for golfers ■ A pocket-size video projector with new laser technology

## ed

■ ■ ■ In the Tampere Region, close to 70% of over 15-year-olds have completed secondary, tertiary or researcher-level education.

■ Some 10 million items are borrowed from libraries each year.

### Higher education

**institutions** in the Tampere Region are

- The University of Tampere
- Tampere University of Technology
- TAMK University of Applied Sciences
- HAMK University of Applied Sciences
- The Police College of Finland.

■ **Some 40,000 students study at these institutions.**

■■■ Tampere remains a strong industrial city. Versatile research and education and cooperation between companies and universities have maintained and further developed the competitiveness of the region's industry. The region is home to many internationally renowned companies, including

- Nokia
- Kalmar Industries
- Sandvik Mining and Construction
- Metso Automation
- Metso Minerals
- Metso Power
- Glaston
- John Deere Forestry
- Bronto Skylift
- Avant Tecno
- Agco Sisu Power
- Nokian Tyres
- UPM
- Santen

The Tampere Region has systematically developed its competence in strategic clusters, using means such as centre of expertise programmes and programme-

based economic development policy. In Finland, strong areas of competence have been developed through the national centre of expertise programme since 1994. For the programme period 2007–2013, the Tampere Region Centre of Expertise covers seven fields:

- Intelligent Machines (National coordination)
- Ubiquitous Computing (National coordination)
- Digital Content
- Energy Technology
- Nanotechnology
- Health Technology
- Biotechnology

In programme-based economic development policy, Tampere has **BioneXt Tampere** (2003–2010) representing the field of life science technology, and Creative Tampere (2006–2011) accelerating the emergence of creative economy.

The BioneXt programme focuses on leading-edge research, product development, clinical application and the international commercialization of health

and wellness promoting biotechnology. Its focal areas are biomaterials, tissue technology, bio ICT and immunology. BioneXt was launched with the ambitious aim of attracting investment in the Tampere Region totalling 100 million euros. When the programme ends, the achieved investment will be almost three-fold, at 270 million euros.

■ **The 23rd European Conference on Biomaterials, ESB 2010, takes place in Tampere on 11.–15.9.**

The thematic areas of the **Creative Tampere programme** are creative industries, innovations and entrepreneurship, and attractive city. This programme is also progressing well, and at its midpoint is well ahead of its targets. The programme aims to achieve a project portfolio of 40 million euros and a 100 million euro impact on the development of creative economy by the year 2011.

■ **The Creativity World Forum Reverse Mission will be arranged in Tampere in 2011.**

# education

The TAMK University of Applied Sciences is Finland's third largest university of applied sciences, with 10,000 students. The university's business administration degree programme has been selected as one of the centres of excellence in education in Finnish universities of applied sciences for the years 2010–2012.

## A unique practice area for police

The Finnish police force is trained in Tampere. Crime investigation as well as situations requiring the use of force are practiced in an exercise town and building equipped with state-of-the-art technology. There is no comparable learning environment anywhere else in the world.

The **University Alliance Finland**, formed by the University of Tampere, Tampere University of Technology and the University of Jyväskylä, is Finland's most international and research-intensive university consortium. The alliance's spearhead research projects focus on, among others, medical technology, the interaction between humans and technology, sustainable energy, nano-level phenomena, scientific methods, the digital environment, learning, work and wellness and ageing.

# research

■■■ Centres of Excellence in Research appointed by the Academy of Finland:

■ **At the University of Tampere**

The Finnish Centre of Excellence in Research on Mitochondrial Disease and Ageing (FinMIT) 2002–2007, 2008–2013

■ **At Tampere University of Technology**

Centre of Excellence in Signal Processing 2006–2011

The Department of Intelligent Hydraulics and Automation and the Helsinki University of Technology Automation Technology Laboratory jointly form the Finnish Centre of Excellence in Generic Intelligent Machines Research (GIM) 2008–2013.

The Inverse Problems research group at the joint Mathematics Centre of the University of Tampere and Tampere University of Technology is part of a National Centre Excellence 2006–2011.

The **VTT Technical Research Centre of Finland**, which is the largest technology research organization in Northern Europe, develops and applies technologies and enhances their utilization under commission by customer companies and the public sector. VTT takes part in international research and innovation activity in cooperation with the world's leading technology research organizations.

## Research and development projects,

**Neogames** is a developer of games business, research and training and a national centre in its field which produces business and internationalization services for companies.

**TAUCHI – the Tampere Unit for Computer-Human Interaction** conducts multidisciplinary research into human-technology interaction and its development, harmonizing the potential of technology with human abilities, needs, and limitations.

The Communication by Gaze Interaction (COGAIN) project ran to conclusion at the end of 2009. The five-year EU project focused on developing gaze recognition methods for the control of equipment and systems, for users such as the handicapped.

**The Finnish Centre for Open Source Software COSS** develops business based on open source

technology and operating models. Key international cooperation partners include open source centres in the Nordic countries and the EU as well as in South Africa and China.

In the **Demola** open innovation environment, students of Tampere-based higher education institutions refine companies' ideas and gain experience from multidisciplinary cooperation. During its first year, Demola inspired 250 students to carry out more than 40 different development projects for ICT and media companies, and was recognized with the Activator of the Year 2009 award by the Ministry of Transport and Communications.

Another generator of multidisciplinary teams is **Protomo**, where innovations are produced by product development professionals released from companies in a variety of fields.

## Nokia and universities innovating together

■ ■ ■ The University of Tampere has joined Nokia Innovation Center Tampere, the joint innovation centre established in 2007 by Nokia and Tampere University of Technology. The centre promotes the open exchange of information between researchers, which generates new research and scientific publication activity. The centre is Nokia's first innovation centre in Finland. In the United States, Nokia has similar centres with Stanford University and the Massachusetts Institute of Technology, MIT.

## Tukes strengthens the safety cluster

■ ■ ■ Tampere is the focal point of safety technology in Finland – accommodating leading research and training units in the field and key national organizations and companies. The region's already diverse safety cluster was further augmented when the Safety Technology Authority, Tukes, moved various operations to the city in 2009.

# expertise

expands, cooperation extends

## Increasingly efficient solar cells

■ ■ ■ A new solar cell development programme has been launched at the Tampere University of Technology Optoelectronics Research Centre, ORC. In the Solar III-V project, ORC is studying and developing new compound semiconductor materials and testing their applicability to high-efficiency multi-junction solar cells which have an efficiency ratio of about 50 percent.

ORC is the largest university-based research centre in Europe in the molecular beam epitaxy (MBE) crystal growth technique. It is currently running more than 25 national and international research projects with about 50 universities and companies worldwide. ORC has been exceptionally successful in achieving innovative scientific results, developing new technologies, and transferring expertise into industrial use. The centre has played a seminal role in creating a laser manufacturing industry in Finland.

## Wide cooperation between Bosch Rexroth and TUT

■ ■ ■ Bosch Rexroth AG and the Tampere University of Technology (TUT) Department of Intelligent Hydraulics and Automation have entered an agreement concerning technology and training cooperation in digital hydraulics. The parties will cooperate in the development of digital hydraulic products and applications, and doctoral education

## centres and networks

The Centre for Vaccine Research and Immunology, **Vactia**, was established in Tampere due to the emergence of Finland's most significant concentration of research into vaccines and infectious diseases. Vactia brings together more than 300 researchers and a project portfolio of some 30 million euros.

The **SILK** Research, Product Development and Innovation Centre of Ophthalmology is a cross-disciplinary competence centre for diagnostics and new treatment methods for eye diseases.

The Biosensing Competence Centre, **BCC**, offers its biosensing expertise in tools for cell and tissue engineering, molecular recognition, wearable wireless monitoring, and food and environmental monitoring sensor and device development.

The Finnish Centre for Alternative Methods, **Ficam**, was established at the University of Tampere Medical School in 2009. Ficam is Finland's first centre for non-animal alternatives in testing. Using human cells gathered under license at a tissue bank, the centre is developing methods to almost entirely replace animal testing in the future.

The maintenance system for the ITER fusion reactor to be built in France is to be delivered from Tampere. In the beginning of 2009, a research environment was completed at VTT for the development of the remote operation, virtual technologies and simulation needed for ITER's maintenance. VTT and Tampere University of Technology have established a **Remote Operation and Virtual Reality Center, ROViR**, which provides companies with virtual design and remote operation research and development services using the ITER maintenance testing equipment.

A competence centre for wear research, **Tampere Wear Center TWC** at Tampere University of Technology, focuses chiefly on studying and understanding wear mechanisms. In fundamental research, the centre's spearhead fields are heavy abrasive wear and impact wear.

The joint **Mathematics Centre** of the University of Tampere and Tampere University of Technology produces mathematics research, researcher training and education of an internationally high standard.

### New jaw bone from a patient's fat cells

■ ■ ■ As a world first, a missing half of an upper jaw bone was grown using stem cell technology in a treatment pilot carried out in 2008 in Tampere, at the Regea Institute for Regenerative Medicine. By the beginning of 2010, some twenty patients had been treated using the new technique. Regea is an independent institute of the University of Tampere and studies and produces treatments based on cell technology and tissue engineering. In addition, Regea serves hospital districts with Finland's first EU directive compliant multi-tissue bank.

will be arranged for the company's personnel in Tampere.

TUT's Department of Intelligent Hydraulics and Automation is a pioneer in digital hydraulics. Research has focused on digital valves and their control methods. At present, the hottest field of research is mobile hydraulics. The digitalization of hydraulics, their intelligent computerized control and digital pump engines maximize a machine's efficiency and reduce its energy loss by up to 90 percent. Work machines' fuel consumption and emissions are significantly reduced.

■ **The Tampere Business Region** service, TBR, offers information and practical assistance for operators seeking new business opportunities or considering an investment in the Tampere Region. Users of TBR achieve cost benefits and receive free services. In cooperation with its partners, TBR has put together a Fast Track Finland package to help newcomers jump-start their business.

■ The Tampere Region has an **EU Office in Brussels** as a station for promotion, networking and lobbying. The office's main tasks are to follow EU programmes and funding opportunities and to identify partners for regional actors in the Tampere Region. The Region's EU Liaison Manager is Hannele Rääkkönen.

■ Operating in the form of a national network organization, the **Baltic Institute of Finland** is located in Tampere. The institute ideates, plans, launches and coordinates international cooperation projects in a variety of fields within the Baltic Region.

#### Tampere is a member of

- Eurocities
- Union of the Baltic Cities
- Cities for Children
- Energie-Cités
- ICLEI - Local Governments for Sustainability
- International Association of Educating Cities
- Association of European Cities and Regions for Culture
- European Cities Marketing

Creative Tampere is involved in the Creative Industries working group of the Eurocities organization and in the Flanders District of Creativity network.

# international

## Volunteer culture

■ ■ ■ The shingle roofing of the medieval Church of St Olaf in Tyrvää was renewed by voluntary workers in 1997. Just a few weeks after completion the roof was destroyed by fire, together with the church's centuries old original interior. But the villagers decided to rebuild the church. It took millions of euros and hundreds of thousands of hours by professionals and 1,200 volunteers. The jewel of the church is artwork by renowned Finnish artists **Kuutti Lavonen** and **Osmo Rauhala**. The church was taken into use again in August 2009.

## The most beautiful power plant in the world

■ ■ ■ Tampere has made conscientious efforts to improve the quality of the built environment. Success in this area attracted international attention when the 'Oscars of lighting' were handed out at the GE Edison Award competition in 2008. The facade lighting for the Naistenlahti power plant, designed by VALOA design Ltd, won the Edison Award of Excellence.

# A BUILDER

■ ■ ■ Industry has left a strong mark on the buildings in Tampere. Though engineering workshops rumble no more at the **Finlayson** and **Tampella** factories, these areas are full of new life. In its time, the six-storey Finlayson factory was a breakthrough in modern industrial building in the Nordic countries. Now the historic milieu of Finlayson is home to ICT and media companies, museums, restaurants and cinemas. Tampella's workshops have been replaced by IT companies, museums and apartments.

■ The oldest building in Tampere is the **Messukylä Old Church**, completed in 1434.

■ The grey-granite **Tampere Cathedral** is a valued treasure among Finnish architecture of the national romantic period. Designed by architect **Lars Sonck**, the church was completed in 1907. The interior is decorated with art by **Hugo Simberg** and **Magnus Enckell**.

■ **Tampere City Library Metso** also acts as the Regional Library for the Tampere Region. Seen from above, the building resembles a courting wood grouse. Completed in 1985, Metso was designed by **Reima and Raili Pietilä**, who also designed Mäntyniemi, the official residence of the Finnish President.

■ Tampere's landmark **Näsinneula** is the Nordic countries' highest observation tower and stretches to a height

of 168 metres. It was opened in 1971. At the foot of Näsinneula is the **Särkänniemi Adventure Park**, which in 2009 was once again nominated by Finns as the best free-time centre in Finland.

■ New openings and plans include the development of the **Ratina** area for residential and office use in the city centre, and the building of a new suburb, **Vuores**, on the border between Lempäälä and Tampere.

■ **Tampere came top in a survey comparing the largest cities in Finland as tourist attractions, conducted by Taloustutkimus in 2009.**

## Tampere is a city of congresses,

# environment

■ ■ ■ The land area of the Tampere Region is 12,500 square kilometres, and the population density approximately 40 inhabitants per square kilometre. In the city of Tampere, the population density is some 390 per square kilometre.

There are 2,600 lakes in the Tampere Region.

Tampere's city centre is surrounded by lake and ridge scenery, situated on

an isthmus between lakes **Pyhäjärvi** and **Näsijärvi**. The **Tammerkoski** rapids run through the city. The Ministry of the Environment has appointed the Tammerkoski industrial scenery as one of Finland's national landscapes.

There are numerous nature reserves in the Tampere Region. **Pyynikki** and **Viikinsaari** near Tampere's city centre, **Helvetinjärvi** in Ruovesi and **Seitseminen** spanning over Ylöjärvi and Ikaalinen are the best known.

# active & creative

## congresses

46 international congresses were arranged in Tampere in 2009. Approximately 7,500 delegates attended.

■ **Tampere Hall**, the Nordic countries' largest congress and concert centre, was opened in 1990. In 2009 it was selected once again as Finland's best congress and concert venue. Tampere Philharmonic Orchestra turns 80 in 2010.

## trade fairs

In 2009, **Tampere Trade Fairs Ltd** arranged 16 fairs drawing more than 100,000 visitors to Tampere Exhibition and Sports Centre. Some 260 meetings and events were arranged at the centre, with 780,000 attending in total.

## museums

Museum Centre Vapriikki inside the old Tampella engineering workshop ■ Tampere Art Museum ■ the Sara Hildén Art Museum ■ Moomin Valley ■ the Finnish Labour Museum Werstas ■ the Lenin Museum ■ the Textile Industry Museum ■ the Rupriikki Media Museum ■ the Shoe Museum ■ the Finnish Ice Hockey Museum ■ the Finnish Boxing Museum.

### ■ Tampere is the theatre capital of Finland.

There are 13 professional theatres and several independent theatre groups. One third of Finnish actors receive professional training at the University of Tampere's Department of Acting. The Centre for Practice as Research in Theatre is one of six European theatrical organizations participating in Prospero, a 5.4 million euro project funded by the EU's Culture programme.

## events

Tampere International Short Film Festival ■ Tampere Theatre Festival ■ Pispala Scottische ■ Tampere Biennale ■ Tampere Vocal Music Festival ■ Tampere Jazz Happening ■ The MindTrek conference for digital media and business

### ■ Olympic flame

In July 2009 Tampere hosted the European Youth Olympic Festival. 3,300 youths from 49 countries attended.

In 2010 Tampere is hosting the

- Hockey World Classic Tournament
- European Junior Synchronized Swimming Championships
- Nuorten Jukola youth orienteering relay
- World Ringette Championships

Annually arranged international competitions include the Tammer Tournament in boxing, the International Rowing Regatta on Kaukajärvi lake, and the Delfin Basket Tournament for junior basketball players.

■ **Ice hockey** is Tampere's favourite sport, and it is steeped in tradition: Finland's first artificial ice rink was built in the city in 1956 and the first ice hall, the Hakametsä hall, in 1965. Tampere has two teams in the national championships league, Tappara and Ilves.

Tampere also has a team in the national championships league in football, basketball, volleyball, floorball, American football and rugby.

The **Ratina stadium**, right in the city centre, is an arena for athletics and football as well as concerts. The stadium has capacity for 16,500 spectators.

■ **There are seven golf courses either in or near Tampere.**

## trade fairs, museums, events, theatre and sport.

■ Pyynikki, formed by the action of ice and sea more than 10,000 years ago, is the world's highest gravel ridge. At its highest it rises 160 metres above sea level.

■ **There are approximately 100 square metres of parks and green areas per inhabitant in the City of Tampere.**

■ The City of Tampere's environmental strategy aims to develop Tampere into a spearhead city of environmental protection by 2012. Tampere has also approved the Aalborg commitments as the city's platform for sustainable development.

### Fair trade

In 2008, Fairtrade Finland granted Tampere Finland's first honorary title of Fairtrade City. The University of Tampere became Finland's first Fairtrade University in 2009.



easy to reach

### By plane

Tampere-Pirkkala Airport is located 13 kilometres southwest of Tampere and enjoys good traffic connections. Tampere can be reached from Helsinki, Stockholm, London, Frankfurt, Riga, Milan, Bremen. Starting soon Edinburgh, Kaunas, Malaga and Dublin.

### By train

The Pendolino train makes the 175-kilometre journey from Helsinki to Tampere quickly, in just an hour and 30 minutes.

### By bus

Tampere can be reached by bus from almost anywhere in Finland – four fifths of all north-south traffic in Finland goes through the Tampere Region. Taking a bus is also a handy way to get about in the city itself. Tampere was the first city in Finland to manage its internal traffic with buses.

## GET IN TOUCH!

**Tampere Region  
Economic Development  
Agency Tredea Oy**  
[www.tredea.fi](http://www.tredea.fi)

**Tampere Business Region**  
[www.tamperebusinessregion.com](http://www.tamperebusinessregion.com)

**Tampere Region  
EU Office in Brussels**  
[www.tampere-region.eu](http://www.tampere-region.eu)

**City of Tampere**  
[www.tampere.fi](http://www.tampere.fi)

**Joint Authority  
of Tampere Central Region**  
[www.tampereenseutu.fi](http://www.tampereenseutu.fi)

**Regional Council  
of Tampere Region**  
[www.pirkanmaa.fi](http://www.pirkanmaa.fi)

**Centre for Economic  
Development, Transport and  
the Environment for Pirkanmaa**  
[www.ely-keskus.fi/pirkanmaa](http://www.ely-keskus.fi/pirkanmaa)

**Tampere Chamber of  
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[www.tampere.chamber.fi](http://www.tampere.chamber.fi)

**Creative Tampere programme**  
[www.creativetampere.fi](http://www.creativetampere.fi)

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**Police College of Finland**  
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**VTT Technical Research  
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**Safety Technology  
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[www.tukes.fi](http://www.tukes.fi)

**Tampere Hall**  
[www.tamperehall.fi](http://www.tamperehall.fi)

**Tampere Trade Fairs**  
[www.tamperetradefairs.fi](http://www.tamperetradefairs.fi)

**Tampere-Pirkkala Airport**  
[www.finavia.fi/airports/airport\\_tampere-pirkkala](http://www.finavia.fi/airports/airport_tampere-pirkkala)

## facts&figures

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