

**YES MILANO**

# MILANO FOR LIFE SCIENCES

2021

MILANO&PARTNERS

In collaboration with:





**MILANO  
FOR LIFE  
SCIENCES**



# WHY MILANO



**Leader in  
pharmaceutical  
production**



**Leader in precision  
medicine, among  
the most advanced  
healthcare systems  
in Europe**



**World class  
strengths in  
functional food**



**Strong  
Talent base**



**Competitive  
Incentives**



**International  
Outlook**



**Excellent  
Infrastructure**



**Quality of Life**



**EU Market  
Gateway**

# THE OPPORTUNITY



Milano is home to an internationally competitive pharmaceutical, biotechnology and functional foods hub, with strong growth prospects and a commitment to innovation across its entire supply chain. Italy is also home to one of the most advanced and efficient healthcare systems in Europe.

- Italy is EU's largest producer of pharmaceutical products and one of the main exporters of pharmaceuticals per capita. €32.57 billion of pharma products have been exported in 2019 (+26% vs. 2018). Milano is the center of the Italian pharmaceuticals industry: The Italian exports in pharmaceutical products experienced a +49% growth (85% of the production) between 2015 and 2019, scoring the highest productivity in Europe. €1,6 bln invested in 2019. +10% employment growth (vs +5% EU average), reaching 66,500 workers in the Pharma sector.

- Lombardy is the Italian most developed region in the Life Sciences sector with a total production worth €63,4 bln (31% of national production), a value added of €45,8 bln and 347,000 employees (20% of national employment in the sector).

- Excellence of upstream sectors: 1st ranking in machinery and packaging (related to Pharmaceuticals production)

- Milano has been the EU food capital since Expo Milano 2015, themed "Feeding the Planet, Energy for Life"

- Lombardy is Italy's top region for European health and life sciences investments and the 4th largest recipient region

- Italy is the second healthiest country in the world <sup>1</sup>. In 2017, Italy spent \$2,840 per person on healthcare (+3.8% comparing to 2016) = 8.8% national GDP. Between 2012-2015, health spending as a share of GDP remained stable

1 Bloomberg Healthiest Country Index, 2019

# SNAPSHOT OF ECOSYSTEM



**Milano boasts one of the highest concentrations of private companies, hospital facilities and research institutions in Europe and is home to the world's largest life sciences companies.**

A large number of companies in the City specialize in the production of active pharmaceutical ingredients and raw materials, automated manufacturing plants, primary and secondary packaging, and regulatory services.

Milano is home to trade bodies, government, regulators, academia and research institutes, and the Milano metro region hosts many life sciences trade bodies and regulators.

## LOMBARDY

- Lombardy is the **richest region in Italy** with a **GDP** per capita about **26% higher** than the national and the EU average.
- **GDP per capita** (PPS) is among the highest in Europe and amounts up to **€37,800** (€28,400 in Italy and €29,500 in the EU)
- Lombardy is also **home to leading scientific centers** in areas such as genomics, biomedicine and healthcare management (e.g. oncology, cardiovascular diseases and rehabilitation therapies).
- Lombardy's **population exceeds 10 million** inhabitants. In 2018, the employed **workforce** in Lombardy amounted to **4,32 million** (67.3% was employed in services, 31.5% in the industrial field, 1.2% in agriculture).
- **250** private and public accredited hospitals; **17** research hospitals (IRCCS); **130,000** skilled healthcare workers; **>500** R&D centers; **9** cluster sci-tech; **5** sci-tech parks; **4,9%** of employed population works in high-technology sectors.

# LIFE SCIENCES COMMUNITY

- The Milano Metropolitan Region is home to over **250 pharmaceutical and biotechnology companies** (58% of Lombardy Life Sciences companies)
- **Life Sciences trade bodies and regulators**, including the European Food Safety Authority (Parma) and EU Joint Research Center (Ispra), are based nearby Milano.
- Lombardy is home to over **51,000 agri-food companies**: >45,000 in the agricultural sector and >6,000 food and beverage companies.  
1st region in Italy for agricultural production, 16.4% of the national agri-food system, over 74 foreign companies working in the Agri-food industry are located in Lombardy employing more than 18,900 people. (ISTAT)
- **Italian pharmaceutical sector productivity is 5% higher** than the main European countries average and 3 times the average productivity of all industry sectors in Italy.
- **Over € 16.5 bln revenues in the Medical Devices sector** with **3,957** operating companies and **76,400** people employed at the national level

## Life Sciences



## Food & Beverage



## Life sciences trade bodies and regulators



## Life sciences trade bodies and regulators



# MIND: Milano Innovation District



**MIND Milano Innovation District is a 1 million m2 development plan, which is being created on the site of the former EXPO Milano 2015 site.**

It will be a hub of global excellence for companies, scientists and researchers operating in the fields of life sciences, healthcare, biotech, pharma, agri-food, nutrition, data science and big data.

The Milano Innovation District includes the “Human Technopole”, “Science for Life” the Università di Milano (Statale) campus, Institute for Treatment and Research Healthcare Center (IRCSS Galeazzi) and a Social Innovation Hub-Lab.

The Human Technopole will comprise 1,500 researchers and some of the world’s most advanced computing, storage and imaging equipment. Its mission will be to develop personalized approaches, both medical and nutritional, focusing on cancer and neurodegenerative diseases. It will achieve this mission using genomics, the analysis of big data and new diagnostics techniques.

The MIND district, to be completed in 10 yrs, is close to the main city airport (Malpensa) and Milano Exhibition Centre, which is the largest trade fair facility in Europe. It will eventually host 60,000 people daily, including 18,000 students, 5,000 researchers and 5,000 visitors.

# OPENZONE



**«We uniquely create value in healthcare, by fostering community, competencies and capital»**

OpenZone is a place in which research is turned into Business, a campus dedicated to Health on the doorstep of Milano, created by Zambon to consolidate its way of thinking and experiencing research.

Funded entirely by private capital it's founded on an approach geared towards open innovation, conceived to build bridges between different competencies, languages, and worlds. Today, it has 19,500 sqm of office space and 7,500 sqm of laboratories (1,600 of which Good Manufacturing Practices). OpenZone is home to 26 organizations, including some of the world's foremost biotechnology, pharmaceutical, and advanced gene therapy companies, such as MolMed, EryDel and Newron.



Work is underway to expand the campus, which, thanks to a total investment of 60 million euros, will grow in size by 2021 to a total area of 37,000 sqm providing space for up to 1,200 people. The first building completed is Z-LIFE, the new Zambon Headquarters. OpenZone works closely with all the stakeholders in the Healthcare sector, to ensure that Milano and Lombardy are increasingly recognized internationally as territory of excellence for Life Sciences.

# PRECISION MEDICINE



Italian life sciences companies have invested heavily in orphan drugs and advanced pathology treatments related to cancer and other diseases of clinical-epidemiological relevance, such as autoimmune and infectious diseases. They are also at the vanguard of vaccines research. Around 300 new Biotech products are currently being tested. Over €700 mln are invested every year in clinical trials by the Pharmaceutical industry.

Lombardy's regional government is leading partner of a national research program for the development of advanced cancer therapies using CAR-T technology. Other partners include the Hospital S. Gerardo-Fondazione Tettamanti (Milano Monza), Molmed S.P.A., the San Raffaele Hospital and other research institutions based in Milano.



Dompé is a leading Italian biopharmaceutical company focused on the identification of innovative therapies for the treatment of rare diseases. The company has revenues of €300m and employs 800 people.

In 2017 by EMA and in 2018 by FDA, the company received approval for the first-ever application of a human nerve growth factor as drug or treatment, and the first-ever topical biologic medication approved in ophthalmology.

In 2019, the company partnered with Politecnico di Milano and CINECA to set up Exscalate, the world's most powerful supercomputing platform, which is being used to identify molecules that are effective in countering the Zika virus.

# FUNCTIONAL FOOD

**Consumers are increasingly concerned with their diets and the global functional food and beverage market is expected to grow 8% annually by 2021. Italy's functional foods market is the largest in Europe and the country is second in the world (after the US) in scientific production applied to nutraceutical.** (source: ALISEI)

Milano is a hub for Italy's agri-foods industry, and particularly functional foods, which is renowned for its quality and innovation. The City is North of the Italian "food valley," and close to the European Food Safety Authority and European Nutraceutical Association in Parma.

In 2018, Milano's ALISEI National Technological Cluster for Life Sciences partnered with the National Technological Agrifood Cluster, C.L.A.N., to support research and technology transfer in the following areas: nutraceutical, nutritional and functional foods.

# HEALTHCARE



**Milano has one of the world's most efficient and advanced healthcare systems, and was early in introducing individual electronic health records. It also pioneered an integrated "one health" approach.**

Lombardy has more than 250 private and public hospitals, and 17 start-of-the-art research hospital, known as "IRCCSs" and conducting critical research in biomedicine and healthcare services delivery. The city of Milano offers a state-of-the-art healthcare system, through a comprehensive network of 30 public and private hospitals. Milano also has multiple medical centers dedicated to its large international community, such as the American International Medical Center and the International Health Center. 12 hospitals have emergency rooms with dedicated assistance for foreign patients.

60% of the total inward FDI in Italy are directed to Lombardy.

It has the EU's highest concentration of multinational companies with 5,300 multinationals (47% of the national total) employing over 420,000 people (1/3 of the multinationals have offices in Milan).



Bracco is an international healthcare group and a leader in diagnostic imaging. Bracco Group delivers healthcare services which are provided by the Centro Diagnostico Italiano, a polyclinic based in Milano. With 21 satellite units in the city and Lombardy, the CDI offers 150,000 diagnostic procedures in different services of prevention, diagnosis, rehabilitation and personalized treatment, with a focus on radio-surgery and day-surgery.

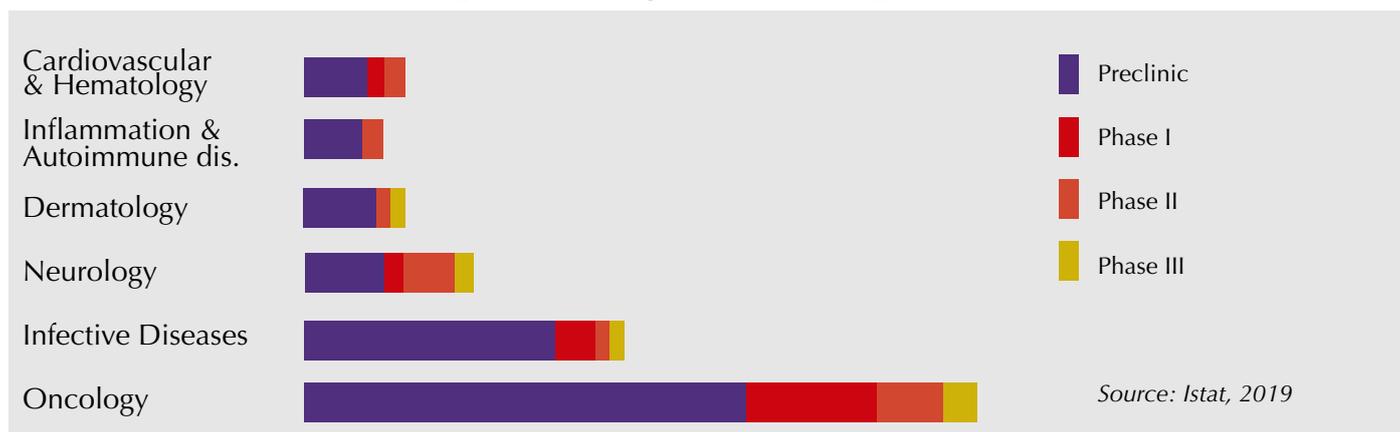
The company's production plant based in Milano has advanced automated technologies which follow "Good Manufacturing Practices" parameters. During complex manufacturing phases, more than 500 analytics - chemical, physical and biotechnological - are checked.

# COVID-19 RESPONSE

Italy has been the first EU country to be severely hit by the SARS-CoV-2 pandemic with its epicenter in the Milano area. As of May 18<sup>th</sup>, the country has recorded over 225,000 infected cases and 32,000 death pushing the region to become among the most advanced in terms of research, innovative sanitary measures and clinical response.

- Since the very early outbreak in March 2020, representatives of the Life Sciences ecosystem in Milan have incessantly researched on seroconverted serum transfusion therapy (Kedrion-San Matteo), antibodies and molecular testing (Sentinel Diagnostics) and clinical trials on new molecules (Dompé in collaboration with San Raffaele hospital).
- Compared to the figures of the precedent year, the development of new bio-pharma products linked to infectious diseases is overpassing the oncological products testing while Milano area keeps its primacy by hosting 46% of the national GDP generated by the bio-pharma industry.
- Immuni app tracking system: the contact tracing app bought by the Italian Government was developed by Bending Spoons, a Milan based tech startup, together with Centro Medico Santagostino, a private network of local polyclinics.
- Research and health management went in parallel with the setting of draconian sanitary measures: Milano went through over two months of full social and economic lockdown which ended on May 18<sup>th</sup> 2020 with a controlled reopening of retail activities, while the use of face masks remains compulsory. Business continuity has been therefore granted through a massive digitalization of private and public services.

## Product trials for development stage and therapeutic area



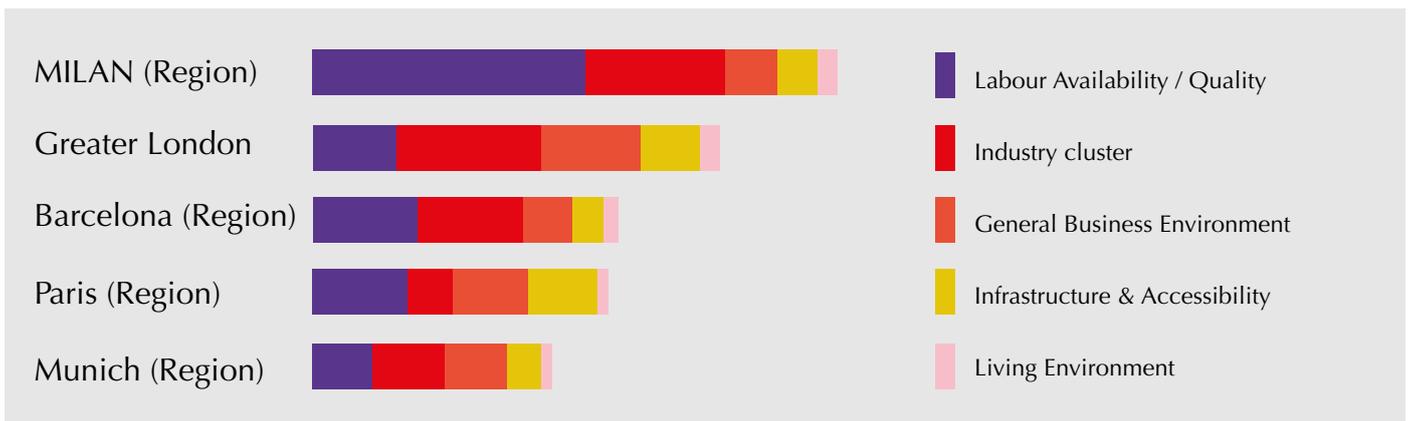
# TALENT BASE

Milan stands out for the quality of its human capital and education system at every level. The City is known as the Italian economic capital and is a dynamic and creative environment for startups.

- It counts for 8% of Italy's workforce (51% of Lombardy's workers) and it has the highest employment in financial and business services as a percentage of total employment. It also boasts some of the most advanced scientific centers in Europe and creates 22% of all Italian patents.
- Milan has eleven universities and academies, which admit 190,000 students each year, 12,200 of which internationals (Assolombarda)
- High percentage of international residents compared to peer cities. Increasingly becoming known as a "laboratory for creativity and innovation"
- Four of Milan's universities are specifically dedicated to life sciences and medicine, and are top-ranked in Europe: Università degli Studi di Milano ranks 36th in Pharmacy & Pharmacology, Politecnico di Milano ranks 34th in Chemical Engineering.

Compared with other international cities, Milan ranks 1st in the cost/competitiveness index, in the quality overview and in the attractiveness index (quality-cost score) fDi Benchmark Financial Times Ltd.

## Biotech Sector: Quality overview



Young people and women also play an important role in Italy's pharmaceutical sector: 55% of newly employed people are under 35, 42% of the workforce are women, and 52% of those women are in research industries. The chart below shows the average salaries for most researched profiles in Industry.

| JOB FUNCTIONS            | LEVEL                    | GROSS ANNUAL INCOME (MIN,MAX)       |
|--------------------------|--------------------------|-------------------------------------|
| Research Technician      | Employee / Middle manag. | € 36,005 - 43,530 / € 42,111-55,863 |
| Clinical Project manager | Middle Management        | € 52,940 - 74,556                   |
| Chief Scientific Officer | High Management          | € 82,481 - 120,752                  |

# MANUFACTURING



Lombardy is the top manufacturing region in Italy and the third largest in Europe by number of employees. It has specific competitive advantages in agri-food, aerospace, life sciences, living environments, smart communities, mobility, green chemistry, energy, environment, construction and smart factories.

The birth-rate of knowledge intensive (KI) startups in Lombardy is 38,6 every 100,000 residents (less than 30 in Germany). Startups in Lombardy boast also a high (5.9%) and medium-high (13.5%) performance of growth, better than those in Bayern region. Startups related to Industry 4.0 had a birth-rate of 4 every 100,000 residents in 2017, with 1/3 of them experiencing a mid-high growth performance, the best results in Europe.

**ThermoFisher**  
SCIENTIFIC

Thermo Fisher Scientific is the world leader in service science, with revenues of more than \$24 billion and 70,000 employees globally. Thermo Fisher Scientific employs approximately 2,000 people across its facilities in the Milan Region, Ferentino and Parma. Its Milan regional offices specialize in scientific instruments, equipment, software, services as lab equipment, lab plastic ware, mass spectrometry, chromatography, molecular biology, protein biology, clinical and diagnostics, pharma development, pharma manufacturing and more.

# RESEARCH EXCELLENCE AND CLINICAL TRIALS

Milano has a rich network of academia, research organizations, national and international regulators, government and complementary industries, which provide a unique breeding ground for science, research, innovation.

Italy is a top-three EU country for R&D in pharmacology, toxicology, and pharmaceutical research and clinical trials.

Milano is one of the largest centers for pharmaceutical and medical device clinical trials, with a particular focus on rare diseases.

Milan has a strong pipeline of drug candidates. Recent breakthrough life sciences discoveries include Zalmoxis®, Strimvelis® and Holoclar®

ZALMOXIS

HOLOCLAR®

Strimvelis

**€5,04Bln**  
spent on R&D  
in Lombardy every year

**€349.2Mln**  
European Regional Development Fund  
allocated to Lombardy (R&D only)

**6,650**  
life sciences and healthcare researchers  
with impressive track records

**33%**  
of Italian patent applications to the  
EU patent office come from Lombardy

**42%**  
of biomedicines approved in  
the EU are produced in Italy

**2 out of 10**  
advanced clinical trials approved in  
the EU are Italian

**1,500**  
of European clinical trials conducted in Italy  
with €700m invested over last three years

**63%**  
of clinical trials in Milan are financed by  
private stakeholders & nonprofit organizations



MolMed is a medical biotech company, founded in 1996 as a spin-off from Milano's San Raffaele Scientific Institute. The company's two facilities in Milano focus on research, development, manufacturing and clinical validation of cell and gene therapies to treat cancer and rare diseases. Its product portfolio includes proprietary anti-cancer therapies in both clinical and preclinical development. In 2016, it received conditional marketing authorization for Zalmoxis®, a new type of therapy based on genetically engineering donor immune system T cells to carry an inducible "suicide gene". Its ex-vivo cell gene therapy to treat patients with a rare disease called ADA-SCID, which it developed with GlaxoSmithKline, also received marketing approval in 2016



Sanofi Italia is a global healthcare leader with operations in 170 countries. It has a major Italian presence, with more than 2000 employees, a head office in Milano and four production sites. The Milano production site has a production value of €24m and most of its products are exported. The company purchases goods and services from 992 regional suppliers and its direct and indirect contribution to the Lombardy economy is €198m.



Novartis is reimagining medicine to improve and extend people's lives. As a leading global medicines company, Novartis use innovative science and digital technologies to create transformative treatments in areas of great medical need. Novartis is one of the largest pharmaceutical groups active in Italy with the headquarter in the Lombardy region employing 40% of the company's workforce (938 people). In 2018, Novartis commitment to innovation and research resulted in 247 clinical studies, involving 13,826 patients and 2,170 university hospital centers in the Lombardy region and the rest of the Country. The Group is expected to invest €200 million in clinical research over the next three years.



Rottapharm Madaus is a leading consumer-focused, branded, specialty pharma business and a Milano success story. Its drugs include Legalon® for liver degenerative, inflammatory and fibrotic diseases, and numerous over-the-counter consumer health products. These include Dona®, the arthritis drug, feminine hygiene product, Saugella®, and nutraceutical ArmoLIPID® for dyslipidaemia management. The company, which has its research center on the outskirts of Milan, was acquired by Meda Pharmaceuticals in 2014.

# COMPETITIVE BUSINESS ENVIRONMENT



**Italy's business environment for life sciences companies is being transformed. The country has created a modern regulatory and market access framework for medicines. It has pioneered work in "managed entry agreements", and created a culture of "regulators as partners", rather than barriers. As a result, Italy ranks first in the world for the number of value-based, managed entry agreements signed with pharmaceutical companies.**

Since 2016, the Italian Government has introduced significant reforms to make the country more competitive and attractive for investments. These include reforms in the public administration, the justice system, taxation, the labour market - the "Unlock Italy" decree, national plans for transport and logistics, and a new digital agenda. The government's commitment to strengthen the country's attractiveness is confirmed not only by the importance of the reforms for business, but also by the presence of substantial funds for development and research made available to foreign investors.

# ECONOMIC INCENTIVES

## Startups

### Smart&Start Italia

To support innovative startups, established for no more than 60 months with a strong technological dimension. Interest-free loan up to 80% of the total investment (10y repayment). Up to 90% if the startup is composed exclusively by women or people aged <35, or if it includes at least one Italian PhD working abroad and willing to return in Italy.

### Development Contract

For large and innovative investments in manufacturing, tourism and environmental protection for greenfield and expansion projects of more than € 20m (€ 7.5m for food processing) presented by one or more small and medium companies also in joint form. Projects presented by foreign companies providing an investment of at least € 50m gain access to the Fast-Track procedure. Additional funds for Fast-Track will be accessible to companies investing in the Green Economy, Biomedical and Telemedicine sectors.

### R&D Circular Economy

For the transition of economic activities towards a circular economy model: eligible expenses between € 500k and € 2mln, with a duration  $\geq$  12 months and  $\leq$  36 months. Soft loan up to the 50% of the eligible expenses and direct contribution to expenditure (micro and small companies: 20%, medium companies 15%, large companies 10%).

## Innovation

### New Enterprises “Zero Interest Rate”

Investment programs with eligible expenses up to € 1.5m to be implemented by micro and small companies established by no more than 12 months and composed, for more than half of members and shares, of people aged between 18 and 35 years old or by women. Program duration not less than 3 years from project completion. Benefits are granted in the form of a subsidized loan (max. 8y) with a zero-interest rate covering up to 75% of the eligible expenses.

### Patents+

The incentive supports micro, small and medium-sized enterprises (SMEs) for the purchase of specialized services related to patents. Eligible expenses related to: industrialization and engineering, organization and development, and technological transfer. Grant of max 140K up to 80% of the eligible costs.

### Energy Efficiency National Fund

A total budget of € 310m supports energy efficiency investments on buildings, plants and production processes. The aid consists in a soft loan up to the 70% of the total eligible investment (between € 250k and € 4m), a guarantee on individual financing operation, up to the 80% of the investment, for a total amount between € 150k and € 2.5m.

## Human Capital

# FISCAL BENEFITS

## Startups

### Innovative Startups

Italian startups under 5 years old with revenues of less than €5m receive an exemption from certain taxes and access to flexible employee contracts. 30% tax relief for investors in innovative startups (cap at €1m for individuals, €1.8 for companies).

### Patent Box

50% tax reduction for incomes arising from direct use or licensing of qualified intangible assets: property rights, industrial patents, trademarks, designs and models, etc.

### Tax Credit on Assets

Companies investing in tangible and intangible capital goods accordingly to the Industry 4.0 national strategy can benefit of a wide range of tax credits from 15% (intangible assets) to 20-40% (tangible assets). Companies investing in ordinary tangible assets can benefit of a 6% tax credit.

### Industry 4.0 training

40% tax credit on the cost of personnel employed in training courses for the acquisition and consolidation of skills in "4.0" fields.

## Innovation

### ACE – Allowance for corporate equity

To encouraging the capitalization of companies by cutting net income and mitigating different tax treatments applied to companies funded with debt/equity. The benefit entails a notional deduction from corporate income taxable base on company revenue (IRES) equal to the net increase in the "new equity" employed in the company, multiplied by a yearly determined rate (1.3% for FY 2020).

### Employment

Firms that employ workers under the age of 35 are granted a reduction in the labor taxes for the first three years of their employment, up to a maximum of 3,000 euros per year. The age limit will be reduced to 30 years starting from 2021.

### New Residents

Employees, self-employed, researchers and professors who move to Italy and have not been resident in Italy in the prior 2 years can benefit of a special tax regime with a tax exemption equal to 70% of their incomes for 5 years (extendible under certain

## ITALIAN QUALITY OF LIFE

**Milano and its attractive surroundings offers a modern, sophisticated way of life, in a safe, tolerant and open social and cultural environment. It is a city that makes everyone feel at home right away and has opened its doors to foreign investors and workers.**

English is widely spoken. Its quality of life is among the best in the world, with high-quality housing, a comprehensive network of international schools, a state-of-the-art healthcare system, a thriving artistic and cultural environment, a unique food scene, and efficient public transportation systems.



## **Milano stands at the heart of Europe, connected to all the continent's great cities.**

Milano has efficient and rapid connections with Italy, Europe and the world. The city is two hours by plane to most EU capital cities, and two hours drive from the Alps in the North and the seaside in the South.

Milano has three major airports: Malpensa-MPX for intercontinental destinations, Linate-LIN with convenient connections to European and Italian cities, and Orio al Serio-BGY, which is an operating base for European low- cost airlines.

Milano Central railway station is a major hub for international railway travel, with daily trains to Paris, Munich, Barcelona, Vienna, Bern, Lugano, Nice, and Marseille. The city is also at the junction of major highways networks, which connect the city to France, Switzerland, Germany, Austria and Slovenia, as well as to the ports of Genoa and Venice-Mestre.

**Intercontinental Direct Flights to:**  
San Francisco, New York, Shanghai, Hong Kong, Tokyo, Istanbul, Tel Aviv, Riyadh, Abu Dabhi, Cyprus



# FIND OUT MORE

**Milano&Partners is the investment promotion agency of the city of Milan. Funded by Milan's Municipality and Milan's Chamber of Commerce. In partnership with Promos Italia, it supports the soft landing of foreign investments in the metropolitan area and promotes Milano's excellence by attracting foreign talents and boosting its competitive environment.**

We support foreign companies and startups expanding their business in Milan with several free of charge services throughout the entire process:

- Facilitating the dialogue with the Public Administration and providing bureaucratic support with visas, permits, and documentation.
- Specialised support accessing national and local fiscal incentives.
- Location scouting.
- Networking with local stakeholders and universities aimed at recruiting specialized human capital and connecting with potential partners.
- Information on the local supply chain (fees may apply).
- Introduction to a selected network of legal, fiscal, labour, and real estate consultants.

\* Information concerning Companies that are part of the Life Sciences community are updated periodically. We apologize in advance for potential omissions. If you notice any missing or wrong information please feel reach out.



Get in touch with us:  
Info@yesmilano.it  
tel. +39 02 85155259  
www.yesmilano.it

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