

意大利馆 Italian Pavilion 2018

意大利环境保护和清洁技术 Italian Environmental Protection and Clean Technologies

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Eco-Civilization process in Italy

The Eco-Civilization process in Italy begun during the 80s, when the need to identify new models of sustainable development, to overcome the social turmoil of the 70s, matched a new awareness that an health environment is necessary not only for human health, but also as a primary resource for economic development.



The Environmental Protection becomes not only a concern about health, but also a safeguard mechanism for the development, so, on 1986, the Ministry of Environment was established, with the Law 349 of July the 8th, which defines also the regulation about Environmental Damage and Environmental Impact Assessment.

Six years later, on 1992, the UN Conference of Rio de Janeiro affirms the need to systematically adopt the Environmental

Impact Assessment procedure as necessary condition for a sustainable development.

In 1997, the Legislative Decree n° 22 of February the 5th, named "Ronchi Decree", by the surname of the Minister for Environment in charge, introduces the principle of the Management of the Waste instead of the simple Disposal: waste is no more a scrap but a resource.

In 2006, twenty years after the establishment of the Ministry, the Environmental Law is revised with the Legislative Decree n° 152 of April the 3rd, with an organic regulation of:

- General principles;
- Procedures for Strategic Environmental Assessment, for Environmental Impact Assessment and for Integrated Pollution Prevention and Control Authorization (called Integrated Environmental Authorization);
- Protection of the soil, fight against desertification, protection of water from pollution and management of water resources;
- Waste management and soil remediation;
- Air protection and reduction of air emissions;
- Environmental Damage.

意大利生态文明的进程

在上个世纪百十年代，当需要确定新的发展模式的时候，意大利的生态文明问题开始被触发。历经了上个世纪七十年代的社会动荡，人们已经意识到环境健康的重要性，它不仅关系到人们的身体健康，也与经济发展息息相关。



坚持环保不仅仅保护了我们的身体健康，也为国家发展提供了保护机制。在 1986 年，国家环保局成立，同年的 7 月 8 日，法律的第 349 条

规定了危害环境物质的鉴定标准和环境损害评估标准。

几年后，在 1992 年，在里约热内卢联合国会议中指出了采用环境影响评估系统的必要性，它是可持续发展不可或缺的重要方面。

1997 年 2 月 5 日颁布的，以当时环保局局长姓氏命名的“隆基法律”，规定了废物处理办法，即不再以简单粗暴的方式处理垃圾。从此，对于废物循环利用，法律上不再是一个空白。

2006 年，环保局成立 20 周年之际，4 月 3 日，新的环保法第 152 条颁布，其中详细规定：

- 主要原则
- 环境战略评估，环境影响评估，环境整体权限评估的实行方式
- 保护土壤，去沙漠化，保护水资源不受污染，管理水资源应用
- 垃圾的管理和整治
- 保护空气，减少污染气体排放
- 治理环境破坏

Matching point between Italy and China

The Eco-Civilization process, that China is facing now, is the same that Italy faced in almost 20 years of history and. Most of all, in the last 18, achieving successes as primacy in Europe and in the World.

In Italy, third largest economy in Europe, the Green Economy employs 13.3% of workers, while emissions of tons of CO₂ equivalent, for every thousand of the industrial unit, are equal to 98.5, the 32% less than Germany and 26.6% less than UK.

Italy is the compendium of technologies, models, know-how and expertise that China can take to accelerate its Eco Civilization process and to catalyze the development of the Green Economy, while China represents a great opportunity for Italian companies, which can find a growing market, supporting the GDP of both Countries.

As for the industry of environmental management and protection, the setting of the Italian market is not very different from the Chinese one. The 20 Regions, the first level of division of the Italian State, have the task of preparing the territorial planning and of management the control activities.

Until 1990, environmental management was run entirely by municipal companies, after that year, thanks to the introduction of Law 142, the market began to be privatized and the companies, while remaining largely owned by the municipalities, they began to follow new management models, delivering diversified services: environment, water and energy; for this reason, they are called "multi-utility" companies.

These are the companies that, having to face and solve the environmental issues of relevance territories, are the engines of the development of technologies and of the design and construction of infrastructures

that achieve outstanding performance, often considered comparison parameters for the Best Available Techniques Reference Book of the European Union.

Since 1990, also entirely private companies born and grow, which create a network of environmental operators, characterized by a strong specialization and local roots and they coexist, often in collaboration, with the multi-utility.

In this context, the technologies for environmental protection are often realized through an innovation processes that involve and aggregate a plurality of small and medium technological Companies and local Universities, according to a mechanism perfectly in line with the Italian economic culture.

In Italy, indeed, small and medium enterprises are 96% of the total and produce 60% of GDP; This size factor involves a management model of the enterprises flexible and especially oriented to customer satisfaction, for which often customized and high quality products are manufactured; however, it has disadvantages, especially because of the short financial leverage, which sometimes leads to exclude the choice of access markets where the Demand requires immense production volumes compared to the productive capacity.

This factor represents the ideal basis for a mutually beneficial partnership between Italy and China in the field of the Green Economy: Italy has cutting-edge technologies and know-how and the Italian companies don't have the structural dimension to invasively enter the Chinese market, while China has financial and industrial resources through which they can select Italian partners with which to create new business projects that meet the growing domestic needs.

中国和意大利的共通点

得益于“十二五计划”和新的环境保护法，中国如今正处于生态文明建设的进程中，这正是意大利在过去 30 年的历史，特别是最近 18 年里所经历过的，而意大利还取得了在欧洲甚至世界首屈一指的成就。

在意大利，这个欧洲第三经济体，意大利绿色经济占整个产业的 13.3%，与此同时，每一千单位工业产品的二氧化碳排放量为 98.5 吨，比欧洲平均水平低 30%，比德国低 32%，比英国低 26.6%。

意大利代表一种技术，范例，诀窍和经验的集合体。而中国可以对之加以利用并加快自身生态文明的进程，促进绿色经济的发展。而对意大利企业而言，中国代表了巨大的机会，在这里他们可以找到一個上升的市场，以促进双方国家的 GDP（国内生产总值）。

关于管理和环境保护的领域，意大利市场的组成和中国市场并无太大区别。地域性计划的安排和控制活动的管理任务都属于 20 个大区（意大利国家行政划分中第一级别）。

一直到 1990 年，环境的管理都完全由市有企业执掌，在 1990 年后，由于 142 号法律的出台，这个市场开始私有化和企业化，虽然很大一部分依然保持公有，但开始新的管理模式，开始不同的领域的服务：环境，水和能源；由此，也被称为多效用公司(multi-utility)。

应面对和解决相关区域环境问题的这些企业，正是技术发展，计划以及实现效用卓越的基础设施的原动力，而这些方面也正是欧洲最佳可行技术参考书的对比参数。

此外，从 1990 年起，诞生和成长了完全独立的私企，他们创造了一种具有专业化和地域深入化特征的环境保护体系，也常常和多效用公司共存合作。

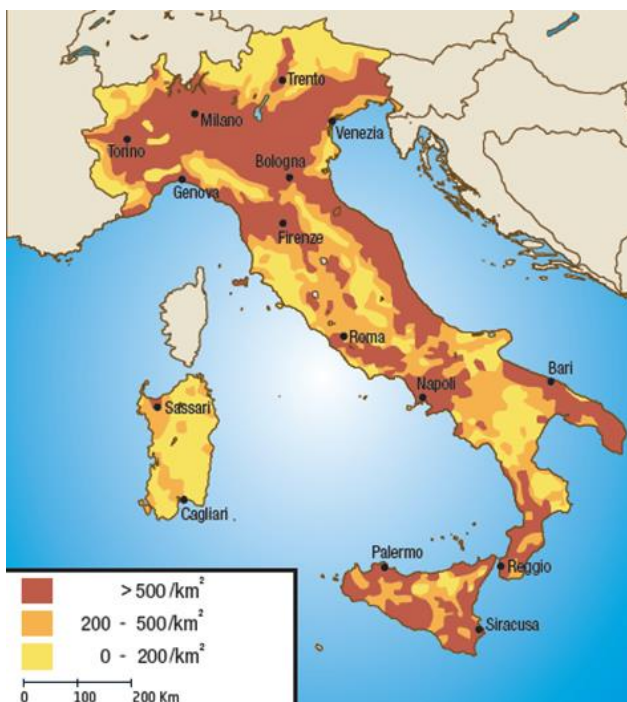
这种背景下，环境保护技术经常在创新中得以实现，涉及和凝聚了许多中小型科技企业和当地大学机构，并和意大利文化经济完美同步运行。

事实上，在意大利中、小和微型企业占企业总数的 96%，并创造了 60% 的国内生产总值；这个因素带来了一种灵活的企业管理模式，特别是在以让顾客满意为导向上，因此，常常出现个性化和高质量的产品，然而这也带来了一些劣势，特别是涉及到短期经济杠杆，当市场供不应求时，它有时也难以迎合市场需求。

这个因素表现出一种在绿色经济方面，中意双赢合作的完美必要条件：意大利具有技术和先驱的经验，而且意大利企业不具备以侵入性的方式进入中国市场的结构规模，而中国具有资金和工业资源，基于这些，可以选择意大利合作伙伴，来一起创造能满足一直攀升的国内需求的新商业计划。

Environmental Issues in Italy

Italy is a peninsula predominantly hilly and mountainous, only 23% of territory is in plain, water resources are not evenly distributed (abundant in the north, scarce in the South), population is mainly concentrated in the plains, with widespread urban settlements (urban sprawl), which implies a considerable consume of arable land, within which industrial clusters, homogeneous for type of industry, have developed.



The fact that, within a certain area, there is a clusterization of Small and Medium Enterprises, engaged in the same industrial segment, has the advantage to have environmental impacts fairly homogeneous for that area, but, because the small size of

the enterprises, technologies for reduction of emissions and pollutants may be too costly for the single enterprise.

Moreover, the combination of the wide variety of eco-systems with the huge number of industrial clusters, implies a wide number of types of environmental impacts and, therefore, of solutions for environmental protection.

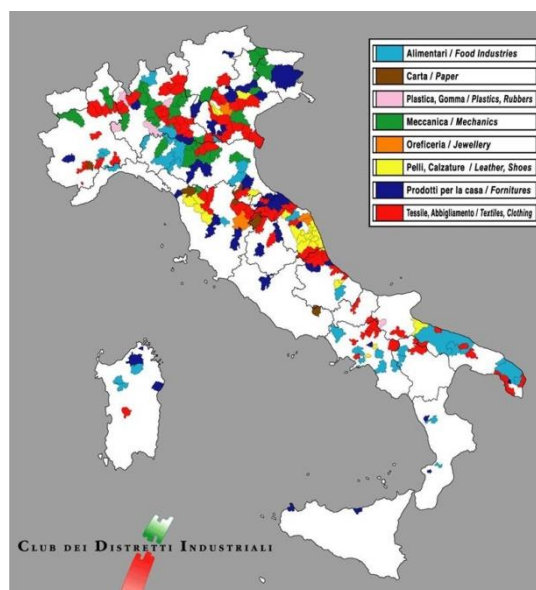
That's why, Italy developed the model of the "Ecologically-Equipped Productive Area", where industrial factories are located in a system, that allows them to realize common infrastructures for environmental protection for the whole area.

This situation of geographic fragmentation for environmental issues and the need to build infrastructures, specific for the single areas, are perfectly integrated into the system of the public utility companies, that, because of the geographic responsibility limited to the City Administrations that are shareholders (with exclusion of the four public utility companies listed in the Stock Exchange), were able to design and build specific solutions.

Last, where industrial processes are particularly pollutants, enterprises are involved in financing and operating common infrastructures, through aggregation mechanisms (consortia, agencies for the industrial area, etc.)

意大利环境问题

意大利是一个以山地和丘陵为主的半岛，只有23%的领土是平地，水资源分布不均（北部丰富，南部不足），人口主要集中在平原地区，围绕城市分布，这导致大量的耕地的使用，和与生产类型相符的工业聚集区的发展。



工业分类 (Industrial Clusters)

	食品 (Food)
	造纸 (Paper)
	橡胶和 塑料 (Rubber and Plastics)
	机械制造 (Machineries)
	珠宝 (Jewelry)
	皮革，制鞋 (Leather, Shoes)
	家具 (Furnitures)
	纺织，制衣 (Textile, Clothing)

由于这个原因，意大利发展了一种“整合生态生产区”（Area Produttiva Ecologicamente Attrezzata）的模式，这里工业企业呈一种回路样分布，来确保环境保护的基础设施区域的实现。

这个环境问题分地域碎片状分布的现状，和对单一区域建设专门基础设施的要求，让这个模式和多效用公司体系完美相融，虽然多效用公司

事实上，在特定的地理区域，集中了从事相同工业领域的中小企业，就形成了在这个区域对环境产生影响的物质基本同类的优势，但是，由于这些企业规模小，解决排放和污染的技术对单一公司来说是太过艰巨的负担。

此外，生态系统多样化和数量众多的工业聚集区的结合，导致对环境产生影响的类型的不同，所以对环境保护来说，就需要不同的解决方案。

由于市政厅是其股东的关系，有地理局限性（不包括已经上市的4个多效用公司），但他们已经立项并研究出专门的解决办法。

此外，在工业生产过程中有特定污染的企业，通过一些集合机制（财团，“工业区域和其他形式”团体），都会参与到提供资金和公共基础设施的管理中。

Industry areas of excellence in Italy

Between 2009 and 2014, over 2000 submissions for patents were, somehow, related to environmental industry, a number that represents around 9.5% of the total requests submitted in the same period. Among these, over 70% are related to technologies for production of energies from renewable sources, energy efficiency, control systems for pollutions, biofuels, sustainable logistic, thermal insulation for the buildings.

意大利的卓越领域

2009 -2014 年间意大利在环境领域有 2,210 项专利申请，占同期专利申请总量的约 9.5%。在这 2200 多项意大利企业的绿色专利中，其中超过 70%的专利申请是在可再生能源的生产技术、污染控制系统与节能系统、生物燃料、可持续发展的交通、建筑物的隔热系统、风能、能源发电系统等领域。

Air treatment

In Italy, the quality of the air progressively improved, emissions of sulfur dioxide (SO₂) and benzene (C₆H₆) decreased of around 90% in the period 1990 – 2012; the ones of carbon monoxide (CO) of 70%. The reduction of nitrogen oxide (as the sum of nitrogen monoxide NO and nitrogen dioxide NO₂) and those of non-methane volatile organic compounds (NMVOC) was higher than 50%; that one of PM₁₀ was higher than 30%, while that one of ammonia (NH₃) is less performing, but around 14%.

The need to limit pollutant in the air often requires the use of complex treatment systems.

These systems proved to be indispensable for industries that produce high quantity of airborne pollutants and want to be consistent with the principles of the BAT – Best Available Techniques.

The technologies developed in Italy are related to:

- *Pre-depuration*, that is a process often required in industrial factories and consists in a preliminary treatment of the contaminated air with partial reduction of pollutants; therefore, the pre-treated flows are conveyed to other more expensive and more effective treatment systems. the major pre-depuration systems are:
 - Sedimentation Chambers;
 - Cyclones and Multi-Cyclones.
- *fabric filter (baghouse)* is a process of particulate abatement that happens when the polluted air flow goes through filters made of textile fibers. There three kind of filters
 - Mechanical Shaker Baghouses;
 - Reverse Air (R/A) Baghouses;
 - Pulse Jet Baghouses.
- *The electrostatic precipitation* is mainly used to reduce emissions of the pollutants in the form of particulates; in optimal conditions it is able to break down the particulate in suspension with an efficiency greater than 99%.

Commonly there are 3 different types of electrostatic precipitators:

- Dry, negatively charged;
 - Wet-walled, negatively charged;
 - Two-stage, positively charged.
- In the abatement processes by condensation, the polluting vapors are removed from the contaminated air stream by changing its physical state from gas to liquid; once liquefied, these contaminants are easily separated and often reused in the production cycle. Commonly there are 3 different types of capacitors, divided on the basis of the substances used to cause the lowering of the temperature:
 - conventional capacitors;
 - refrigerant condensers;
 - cryogenic condensers.
 - *The wet abatement systems* process the removal of pollutants in a contaminated gaseous stream by the action of a liquid, usually water; for this reason similar installations are also defined washing systems. There are essentially four different types of plants:
 - spray towers;
 - plate scrubbers;
 - packed-bed towers;
 - venturi scrubbers.
 - *Combustion* is used for removing organic contaminants in industrial gaseous emissions, when it is not possible to recover these compounds to reintroduce them into the production cycle, both for technical difficulties and for exclusively economic reasons. The most commonly used abatement systems in combustion are:
 - flaring;
 - thermic combustion;
 - catalytic combustion.
 - *Adsorption* is a phenomenon which consists in the adhesion and in the concentration of dissolved or aerosol-dispersed substances on the surface area of a body. The adsorption is generally used when the air is contaminated by one or two valuable compounds that need to be re-used in industrial processes; in this case the adsorbent material allows to collect

and then to re-use these substances in the production cycle. Most common adsorbers are:

- Active carbob adsorbers
- Zeolite adsorbers
- The bio-filtration is a process of abatement of airborne pollutants that exploits the biological oxidation: the contaminated air flows through a medium, in which the microorganisms

are capable of decomposing the pollutant by using them as a food source. The system allows to obtain the same results of combustion, with the exception that the oxidation of volatile organic compounds to carbon dioxide occurs not thermally but biologically; if the compounds contain sulfur, nitrogen or chlorine, then the oxidation by-products are mineral salts

空气质量

意大利一直致力于逐步改善空气质量，空气中二氧化硫（SO₂）和苯（C₆H₆）的排放在 1990-2012 期间减少约 90%；一氧化碳（CO）减少约 70%。氮氧化物（表示为一氧化氮 NO 和二氧化氮 NO₂）减少；非甲烷挥发性有机化合物（COVNM）超过 50%；颗粒物（PM₁₀）大于 30%，氨（NH₃）约 14%左右。

控制空气污染往往涉及到减排系统的应用。这些系统已被证明是在产生大量散逸污染物的工业活动中不可或缺的，同时也符合最佳效用技术原则。



在意大利发展的技术包括：

- 预净化，一个工业领域非常重要的过程，通过污染物的部分消减对污染空气进行预处理；预处理的溢出物随后被送到其他更昂贵和更有效的减排系统，通常是预净化的下游进程。预净化系统主要包括：

存储室

气旋和多重气旋

- 织网过滤，一个固体微粒排减过程，通过各种织物纤维过滤器对污染的空气流进行过滤。用于去除过滤元件上灰尘的是三个本质上不同的减排设备：
 - 震动清洁过滤器；
 - 气流转化清洁过滤器；
 - 压缩空气喷射清洁过滤器。

- 静电除尘，主要用于减少颗粒污染物排放；在最佳条件下可以以超过 99%的效率减少悬浮颗粒。通常有 3 种不同类型的静电除尘设备：

- 负极电晕干式电滤器；
- 负极电晕湿式电滤器；
- 正极电晕湿式电滤器。

- 在减排过程中通过蒸气冷凝技术，把被污染的空气流改变其物理状态从气态到液态；液化后，这些污染物就很容易被区分，在生产周期中再利用。一般有 3 种不同类型的冷凝器，根据降低温度的不同划分为：

- 常规冷凝器；
- 冷藏冷凝器；
- 低温冷凝器。

- 湿式减排系统是将污染气体转化成液态，通常是水；为此，类似的装置也可称为清洗系统。有四类不同的装置：

喷雾塔

斜孔板塔

填料塔

文丘里管系统。

燃烧，用于消除工业气体排放产生的有机污染物，当生产过程中出于技术困难或经济考量不能回收这些成分时使用燃烧方式。最常用的燃烧方式：

- 火把；
- 热燃器；
- 催化燃烧器。

- 吸附是一种溶解或散逸的物质粘附和集中在物体表面的现象。吸附通常应用在空气被一到两个珍贵成分所污染的工业流程之中；在这种情况下使用吸附剂可以收集这些珍贵物质，然后在生产周期再利用。常用吸附剂是：活性炭吸附剂

沸石分子筛吸附剂

- 生物过滤是一个利用生物氧化法减少空气中污染物的过程：通过一种媒介微生

物能够分解污染空气作为它们的营养来源。在实践中达到与燃烧相同的结果，只是用生物方式，因此不产生碳排放和

热量；如果化合物中含有硫、氮、氯，那么氧化副产物是矿物盐。



Water treatment

Water is a resource of primary importance, distributed unevenly in the Italian territory, abundant in the north and scarce in the south. The civil, industrial and agricultural uses require a resource quantity that, especially in summer, might not be available.

The nature predominantly hilly and mountainous of the territory also entails hydrogeological issues, due to the excessive waterproofing of urban areas and overly abundant rainfall, producing landslides and soil subsidence.

For this reason, Italy has developed a dense network of canalization of surface water and a system of pickup and transport of ground waters by pipelines, realized with a redundancy criterion (in order to avoid, as far as possible, the interruption of the delivery due to accidents and maintenance), but also a criterion of economic viability, due to the fact that part of the infrastructure are built and managed by private companies.

Urban and industrial water purification has a fundamental role, not only in the prevention of soil contamination, but also for the ability to reuse the purified water in the context of civil and industrial uses.

The need to achieve environmental sustainability, imposed both by legal constraints and by a growing market demand of "green" products, has led to the creation of cutting-edge purification systems for many industries, often recognized as BAT (Best Available Technology) by the European Union.

Excellent results have been achieved in the field of leather processing and in the chemical industry.

Italy produces 20% of the leather of the World, for a value of more than one billion

euro per year; it is an important industry for the Italian manufacturing, which has more than 1,300 factories distributed in four industrial clusters.

Processing of hides is particularly pollutant, because of the use of chemical agents, in some cases toxic, and the use of trivalent chromium which, in the case of an oxidation process, would become hexavalent and, therefore, strongly carcinogenic; processing of hides, in addition, involves the emission of particularly unpleasant and intense odors.

The environmental performance of waste water treatment systems of Italian tannery industrial clusters exceeded the European BAT benchmarks, treated water achieves quality to be authorized to enter into rivers, while different technologies have been used for the treatment of sludge, which can be used to produce energy or converted into fertilizers.

After the Second World War, in Italy, the chemical industry has been highly developed, particularly in the petrochemical, pharmaceutical, paints and rubber-plastic. The waste water from these industries have characteristics that cannot be purified in biological systems, but require the chemical-physical treatments..

For this reason, the chemical industry has committed to develop technologies and patents for the treatment of their own wastewater, becoming, therefore, reference points for whole industrial clusters and, today, they have been adopted all over the World.

Infrastructures have been studied and realized with the purpose to purify the industrial and urban waste in order to be used for industrial and civil purposes in place of drinking water; these infrastructures have also been designed to support the remediation process and rehabilitation of contaminated industrial areas.

水处理

水作为极为重要的资源，在意大利境内分布极为不均，北方丰富而南部稀缺。日常使用、工业和农业都需要大量水资源，尤其是在可能缺水的夏天。

意大利多丘陵和山地的地貌还会引起各种相关的水文地质问题，比如城市过度防水和降水量过于充沛会导致山体滑坡和地面沉降问题。

因此意大利已经开发了一个地表水的密集渠道网和地下水采样系统和管道运输，采取冗余策略（以避免因事故和维护引起的可能的供应中断），同时也采取经济的可持续发展策略，由民营企业来进行部分基础设施的建造和管理。

城市用水和工业用水的净化不仅在防治土壤污染上扮演着基本角色，而且在生活和工业领域净化水的回收利用上有特别重要的体现。

对实现环境的可持续性发展的法律约束，可从日益增长的绿色产品的市场需求上看到，许多领域都使用通常被欧盟的 BAT（最佳可行技术）认可得先进的净化系统。

在皮具和化学领域的工作卓有成效。

意大利的皮具制造占全球的 20%，每年产值逾亿元；这是意大利制造的一个重要部门，涉及到四个地区的 1300 多个企业。

皮具制造是高污染行业，由于使用化学制剂，有些情况下使用毒性制剂，在氧化过程中形成的三价铬是强烈致癌物；此外，还会产生特殊难闻的气味。意大利制革厂区污水处理系统的环境业绩超出欧盟 BAT（最佳可行技术）基准，处理后的水达到可以排入河流的质量，而另有技术用于污泥处理，可以用来生产能源或转化为肥料。

在第二次世界大战后，意大利积极发展化工行业，特别是石油化工、制药、涂料、橡胶塑料等行业。

这些领域的工业废水有不能被生物净化的成分，但可以通过化学-物理处理。

因此，这些行业也致力于发展技术和专利来处理自己的废水，然后成为化学同行业的基准，而今天已经可以适用于全世界范围的工业领域。

已经在进行和研究的基础设施，其目的是为了净化工业和城市废水，使其达到可饮用的标准；某些基础设施则是为了那些工业污染区的改良土壤和重建提供支持。



One example is the industrial and port area of Venice, that has been for decades one of the largest chemical and petrochemical parks in Europe, causing a strong contamination for soil, groundwater and lagoon.

Over the past decade, works for soil remediation have been launched and implemented, which have, as a crucial factor, the water treatment system. The problem has been addressed as a whole, taking into account all the needs, and the infrastructure that has been realized allows the collection of industrial waste water and surface water of the lots into a system which conveys to two purifiers, which in turn convey the treated water in the wider area of constructed wetlands ever built in Europe.

The phytoremediation area allows to obtain two main advantages, on the one hand it helps the natural balance of the lagoon, the other it completes the purification treatment of the water, which is then picked up and conveyed again to the industries, to be use in cooling systems and manufacturing cycles. In this way, the Venice industrial park has stopped to pick up water from the aqueduct.

Constructed wetlands is a tool that is becoming more and more important in Italy, because it allows to enable locally purification systems and water reuse.

It's, in fact, used for the purification of leachate of landfills, but also for the purifying of urban waste water, which, in a closed circuit, limited to a residential block, allows the reuse of water in sanitary installations or for irrigation, significantly

reducing the consume of water from the aqueduct.

威尼斯的工业区和港口，几十年来一直是欧洲最重要的化学和石化区，这里土壤，地下水和环礁湖污染严重。

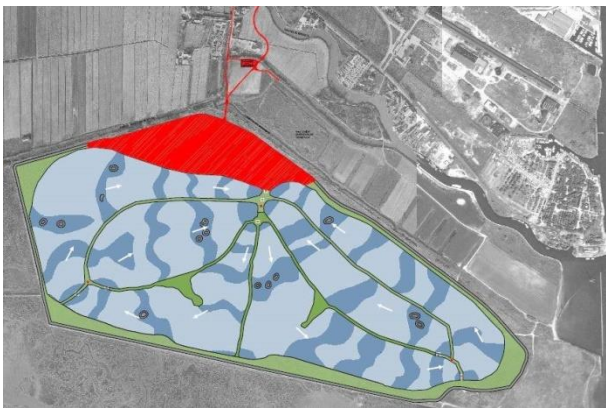
近十年来，为改良土壤而发起和进行的活动，其关键因素是水处理系统。作为一个整体，需要同时考虑到所有的需求，因此基础设施收集到工业废水和地表水送达两个净水厂，这两个收集处理废水的净水厂是整个欧洲范围内植物净化最广泛的。



植物净化有两个主要优点，一方面它可以帮助泻湖实现自然平衡，另一方面，完成整个水净化，然后收集并转化再利用，用于冷却装置和生产过程。正是用这种方式，威尼斯工业园已停止从沟渠取水。

植物净化是一种在意大利越来越受欢迎的办法，因为它用一种地方层面的方法实现水的净化和再利用。

它可用于垃圾填埋场的净化，也可用来净化城市污水，在封闭环境中局限于一个住宅区的净化，实现水的再利用，用在卫生设施或用于灌溉，可以大大减少从沟渠取水。



Integrated Waste Management

The integrated waste management was introduced in Italy by the Environmental Law of 1997 and then integrated in the second environmental law of 2006.

The Italian law determines the priority criteria, which are in the order:

- 1) the prevention of waste generation
- 2) reuse
- 3) recycling of materials
- 4) the use for energy purposes
- 5) disposal into landfills

In Italy, the sorted collection of waste is increasingly common, which is the basis of an efficient system of recovery and recycling, reaching a percentage of 42.3% compared to the total waste collected.

European legislation has set a 50% target for recycling of recyclable waste by 2020; as a matter of fact, already seven of the 20 Regions of Italy have achieved this goal in 2014, while other regions are very close, leading the European rankings.

The recycling of materials pushes towards the adoption of circular economy models, while obvious benefits are achieved because of the energy savings (2.2 billion euro for energy were saved thanks to the recovery of packaging) and because the reuse in the production cycle of materials (a net profits of 1.2 billion for the recycling of PET).

The achievement of optimal goals requires an integrated approach, which takes into account the entire life cycle of the waste, in the specific context in which it is produced.

Typically, the sorted waste are processed by pre-treatment systems, which improve the separation of plastics, wood, metals, glass and paper, sending them to recycling, while the organic waste is used for the production of quality compost or used for the production of biogas through anaerobic digesters.

The unsorted waste is handled by processes of drying and mechanical-biological systems, which allow to separate the materials, which afterwards, depending on their nature, can be processed into compost, while another part is transformed into Secondary Solid Fuels, that has a heating value higher than that of untreated waste and that can be used in coal-fired power generation plants, allowing, thus, to reduce CO₂ emissions.

Innovative technologies allow to use plastics of little value, various scrap and sludge for the production of synthetic-oil, a product usable as lubricant or fuel.

The integrated approach not only reduces drastically the disposal of waste into landfills, but allows to reuse the latter as a deposits of matter to be recovered. The old landfills, in fact, not only can be used to produce biogas, but, following a scrupulous characterization and a stabilization process, can be reopened, with the purpose to sort and recover recyclable materials stored in them.

The Eco-Cluster of Venice represents a significant example of excellence: the system collects the waste produced by a population of about one million inhabitants and over 40 million tourists per year (25 million only in the old town, the rest in the seaside resorts of the coast), managing to maintain a certified standard of recovery, such that only 3% of the waste is disposed into landfills, while the remainder is recycled as a raw material or used for the production of energy.

Some types of waste, such as the tires, were faced with a nationwide systemic approach: thanks to a law of 2011, a small part of the price of new tires is used as an environmental contribution, which is awarded to plants dealing with end of life tires.

All tires are collected and conferred in such plants, which proceed to a processing that separates metal, textile fibers and rubber, which is grinded it into granulates of

different size, depending on the end uses; rubber and metals are then sold as a secondary raw material.

Sometimes, the tire rubber is used for the production of energy, with pyrolysis processes, where there are the conditions for the recovery of heat (for example for pre-heating water).

垃圾的综合处理

在意大利，1997 年制定首部环境法，然后，在 2006 年制定第二环境法。

意大利法律确定垃圾处理的优先级标准，按顺序是：

- 1) 防止垃圾的生成
- 2) 再使用
- 3) 材料回收
- 4) 能源目的的利用
- 5) 垃圾填埋场处置

在意大利，垃圾分类越来越普及，基于一个有效的回收和再循环体系，相比垃圾总回收量，其利用率达到 42.3%。

欧洲立法设定了一个在 2020 年以内回收可循环再造物利用率达 50%的目标，事实上，在 2014 年意大利的 20 个大区就已经达成了这一目标，而其他的大区也即将达成，这一成绩在欧洲是领先的。



材料的回收再循环适用于循环经济模式，由于节约能源节约取得了明显的收益（由于包装的回收节省了 22 亿欧元），在材料生产过程中也实现了再利用（12 亿欧元受益于聚酯包装回收）。

为达到最优目标需要采取综合的办法，要考虑到垃圾产生的整个周期和它产生的特定背景。

通常情况下，分类的垃圾由预处理系统处理，分为塑料、木材、金属、玻璃和纸张各类垃圾回收，而有机废物则用于生产优质的堆肥或通过厌氧消化池处理产生沼气。

未分类的垃圾由干燥系统和生物机械学系统处理，分离材料，然后，根据其性质，转变为堆肥；另一部分则转化为二次固态燃料，具有高热能，可用于煤发电，以减少二氧化碳（CO₂）的排放。新技术可以使用低价值的塑料、各种废料和污泥生成合成油，用作润滑剂或燃料。

综合处理的办法不仅可以大量减少堆填区垃圾，而且实现了这些材料的再利用。老旧的垃圾填埋场不仅可以用来生产沼气，经过仔细划分和一个稳定过程后，可以重新分类从而实现可回收材料的再次使用。

威尼斯的 EcoDistretto（生态区）是一个杰出的例子：该系统收集了大约一百万居民和约 4000 万游客（2500 万在城中心，其余在海岸度假胜地）每年产生的垃圾，设法维持一个只有 3% 的垃圾不被利用的标准，其余的作为原料或次原料用于能源生产。一些垃圾，比如轮胎，处理按国家标准：由于 2011 年法案轮胎售价中的一小部分被用于环境贡献。

将所有轮胎收集放置在某类装置里，分离出金属、纺织纤维和橡胶，根据最终的使用目的形成大小不同的颗粒；橡胶和金属作为原料和次原料再使用。

在某些情况下，轮胎可用于产生能源，在热解过程中有条件（例如预热水）的进行热回。



Soil Remediation

In China, a Government Report issued jointly by the Ministry of Environmental Protection and the Ministry of Land and Resources estimated that 16.1% of the soil is contaminated while this percentage rises to 19.4% percent with regard to agricultural land.

In Italy, 52 large industrial areas have been classified as contaminated, for a total of 730,000 hectares, representing 2.4% of the Country and 10.4% of the plain areas (where the population is concentrated).

The contamination of these territories originated in the criminal behavior of the companies, but it is also due to the fact that such contamination is the result of long-term activities that have occurred in decades previous to environmental laws that faced the situation, requiring limits for the first time and identifying the responsibilities.

The remediation of a contaminated site is the set of procedures to heal situations of deep poisoning of the territory, by securing, removing and disposing of the pollutants: chemicals deliberately released or accidentally leaked into the soil and water of the rivers and of the sea, municipal and industrial waste. Reclamation allows to restore healthy environmental conditions for the population - to contaminated sites is often linked, in fact, a long series of illnesses and deaths - with beneficial effects for the industrial, social and economic redevelopment of degraded areas.

The remediation, the environmental restoration and the permanent securing are carried out based on a specific design, which is divided into three levels of progressive deepening: "Characterization plan", "preliminary design" and "final design".

According to the most used the methods, remediation techniques can be divided into biological, chemical, physical and thermal:

- chemical and chemical-physical: generally shows higher efficiency of removal of contaminants and remediation time relatively short, but are also the most expensive and entail modification of the characteristics of the soil or water. The physical treatments are based on the phase transition or on the concentration of contaminants, while the chemical techniques allow the transformation of the contaminants, lowering the risk.
- thermal: it brings the soil at high temperatures to destroy the contaminants or allow the phase change. It is about the incineration, in which the organic compounds are mineralized but with the disadvantage that the soil becomes sterile, and about the thermal desorption, a technique that has the objective of passing the contaminant towards a mobile phase (generally steam) suitably retained and treated. The thermal type methodologies have a good chance of success, but also high costs.
- biological: it is based on the microbial metabolism and it uses different organisms (bacteria, fungi and plants) and their metabolic reactions useful for decontamination. It is the methodology with slower speed and with less of the contaminant removal efficiency, but has much lower costs and involve a very little modification of the characteristics of the soil, involving the endogenous bacterial microflora of the matrix to be decontaminated.

The technologies can be further divided according to the place where the remediation will be performed: "in situ" remediation (if the methods are applied directly to the site of contamination) or "ex situ" (if remediation takes place after removal of polluted material).

Currently, the development of innovative technologies is focusing on the development of in situ techniques, such as biodegradation, "air-sparging" (insufflation/suction of air) and heating of the soil, in

order to overcome, in part , the shortcomings of conventional methods.

In the field of the bio-degradation, combined processes of washing and sorting of the soil contaminated by hydrocarbons have been developed, in which the innovation is the use "in-situ" of a bioreactor that treats a suspension in water

土壤改造



在中国，由环境保护部和国土资源部联合发布的一份报告显示被污染的土壤比例高达 16.1%，农业用地这一比例则上升到 19.4%。

在意大利，52 个主要工业用地已被列为污染区，共 730, 000 公顷,相当于国土面积的 2.4%和平原面积（人口集中处）的 10.4%。

这些土地的污染是由于企业的不当活动，但也有长期问题导致的污染，因为要求限制和确定责任的环境法才出台不久，之前未能立法保护。

受污染土地的改良是治疗土壤深层中毒的必要干预，保障安全，清除和处理这些污染物：无限制的排放或意外泄露到土壤，河流和大海的化学产品，城市和工业垃圾。土壤改良其实也是为了营造人们的健康环境-污染区通常与一系列的疾病和死亡联系在一起 — 也对生产，生活和经济有利。

土壤改良和环境恢复的设计在永久保护的基础上分为三个层面逐渐深化："表征计划"、"初步计划"和"最终计划"。

根据所使用的方法不同，土壤改良的技术我们可以分为生物、化学、物理和热处理等方：

- 化学和物理-化学方法：一般来说，能更高效去除污染物，时间相对较短，但也是最昂贵的，并涉及改变土壤或水特性。物理方法基于污染的阶段或集中，而化学方法涉及污染物的转化。

of the contaminated soil, giving to the autochthonous micro-organisms present in the soil a mixture of enzymes, capable of accelerating the decontamination times. The results are measured in a reduction of about 90% of the pollution load of the soil in a time measured in hours vs. the times of days or weeks claimed by the best on the market biological remediation techniques.

- 热处理：通过提高土壤温度以毁灭或转化污染物。采用焚化方式，有机体矿物化但是缺点是土壤会变得不育，而热力解吸法是一旨在让污染物流动转化（通常是蒸汽）种技术。此法有很大机会的成功，但是成本高昂。
- 生物方法：依靠微生物的代谢和使用不同的有机体（细菌、真菌和植物）和它们的代谢反应净化。这些方法速度较慢，效率较低，但成本也非常低，并且对土壤特性的改变最少，涉及要净化的数组内生细菌微生物群。

这些技术可以按地点进一步划分：土壤改良“原位 in situ”（直接应用在污染地）或“迁位 ex situ”（根据污染物的移动）



目前，技术创新集中于发展土壤的原位改良技术，生物可降解性，“空气喷射”（吹入/吸入空气）和热技术，部分地也在考虑一些常规方法的不足。

在生物可降解领域，发展结合洗涤和碳氢化合物污染土壤生物修复的技术，其中的创新是在“原位改良”过程中使用生物反应器，它悬浮在水中，置于土壤的土著微生物中，混合酶能够加快去污处理。应用它处理的结果在几小时时间内就能够达到现在市面上最好的生物修复几天或几星期才能达到的结果的 90%。

Another Italian excellence is the treatment process "ex situ" of "solidification/stabilization" (S/S), for the treatment and decontamination of soils and contaminated sediments, able to stably fix the present metals into a cement matrix made according to the principles of high performance concrete, and to remove volatile and semi-volatile contaminants. The end result is the transformation of the soil and sediment contaminated in a durable granular material, of good mechanical properties, superior to those obtainable with the conventional S/D processes, and excellent environmental compatibility.

An highly innovative technique is the EKRT Electro-Kinetic Remediation Technology, it can remove many of the heavy metals commonly found in polluted soils, with improved levels of environmental sustainability and social and economic acceptability, with costs less expensive than those of comparable competing techniques.

意大利另一项卓越的技术是“迁位改良”过程中的“固化/稳定化”和去污，根据高性能混凝土的设计原则和消除挥发和半挥发污染物的原则处理受污染的土壤和沉积物，将水泥基体里的重金属稳定地固定。最终结果是污染土壤和沉积物转化成颗粒材料，经久耐用，其性能明显高于常规固化/稳定化过程得到的材料，并且拥有极好的环境兼容性。

极富创新性的技术是电动修复系统 EKRT（电动力学修复技术），能够消除许多污染土壤里常见的重金属，具备高度的环境可持续性和社会经济认可性，并且相比类似的竞争技术成本更低。



Renewable Energies

The energy supply, in Italy, has one of the highest costs in Europe and, thus, in the World.

Urban settlements are very little concentrated in the territory and primarily consist of low quality buildings built in the sixties and seventies, this leads to a very low energy efficiency of the existing buildings and pollution due to vehicular traffic of the population that moves in the home-work trip.

The need, therefore, to employ energy more efficiently, to reduce pollution and, simultaneously, to locate new sources of energy, has led to the development of investment and technologies for the production of energy from renewable sources.

Since a good part of Italian territory is hardly cultivable, because in mountainous territory, but it is covered by forests or the Mediterranean, the maintenance of these areas allows to collect combustible material, which is used to fuel biomass power plants; in Italy, in fact, there are some of the largest power plants of this type in Europe.

The Research and, then, the industrial application of biomass has roots in the agronomic industry, with the development of agricultural production devoted not only to the use of energy, but also to the agro-industrial use, according to guidelines that have sought the balance between production of food and non-food and cultivation techniques that help the rebalancing of soil.

These productions are mainly used for the production of biogas, biofuels (bioethanol and biodiesel) and fiber; it is in this field that Italy reached excellent results, so much that the actual first commercial patents of second-generation biofuels, both for biodiesel and for bioethanol, are Italian..

Even the use of geothermal energy is particularly developed in Italy, the Larderello plant produces 10% of World geothermal energy, with a total of 4800 GWh per year; the power plant, exploiting the steam coming from the subsoil, feeds the electric turbines. Other methods developed to exploit geothermal energy are based on the combined use of heat exchangers, immersed in surface aquifers, and heat pumps, which allow by far more efficient yields than the traditional systems of heating and cooling in the building complexes.

可再生能源

能源供应在意大利的费用在全欧洲甚至在全世界都是最高的。因为意大利的城市住宅区很少集中，主要建筑物基本都建于 1960 和 70 年代，导致住宅区极低的能源效能和人们出行交通带来极大的污染。



因此，需要提高能源利用效率，减少污染，同时，寻找新的能源来源，也刺激了再生能源生产技术的投资。

意大利好的一方面是其多山的地形，虽难于耕作，但被森林和丛林覆盖，木材燃料丰富，也方便集中种植生物质；事实上，在意大利有几个欧洲最大的生物质中心。

生物工业的研究和应用和农艺部门有深层联系，不仅体现在对能源的利用，而且在指导下可以找到食品和非食品之间的平衡、发展耕作技术帮助土地实现再平衡。

这些产品主要用于沼气、生物燃料（乙醇和生物柴油）和纤维生产；正是由于在这一领域意大利取得优异的成绩是如此之多，以至于第二代的生物燃料生物柴油和生物乙醇的专利都是意大利的。

地热能源的使用在意大利也特别发达，拉德瑞罗中心生产世界上 10% 的地热能源，共 4800 千兆瓦时每年；拉德瑞罗利用地下蒸汽转动电气涡轮机。利用地热能源的其他方法基于浸入浅含水层的热交换器和热泵的配合，其收益率远比传统的加热冷却系统在整栋建筑里更为有效。



Green Chemistry

Italy is at the forefront of Green Chemistry industry, so as to have created the first integrated biorefineries in the World.

In the context of the chemical from biomass, and in analogy to the concept of refining in the petrochemical industry, the concept of biorefineries has been defined, which is a production system that gets fuel and other fine chemicals from raw materials (biomass), alternatives to fossil fuels.

The purpose of the biorefinery is to produce more types of products, using renewable resources as carbon sources and using chemical, biological and biotechnological processes in synergy with the conventional chemical processes.

Biorefineries adopt cascade processes, based on single or multiple biomass matixes as raw material, from which to obtain products with added value as high as possible, obtaining energy from the materials at the end of life and looking forward to their re-use as inputs for biomass (soil or fertilizers), taking into account the environmental mitigation practices, in particular with regard to greenhouse gas emissions and the concept of "zero waste" and the efficient use of resources.

The refining process is not necessarily concentrated in a single Plant, but can occur in a supply chain context, with relocation of production sites in local areas, as a function of access to sources of supply of raw materials and of the impact on the territory. This may involve intermediate treatment stages (selection, concentration, densification), more localized areas of origin, making it possible to qualify the biomasses, and then send them to the subsequent steps of transport and transformation.

The relocation allows to better manage the sustainability of the production system, especially as regards the access to supplies of primary biomass, on which the cost and environmental impact of transport do not have secondary importance.

Considering the products already widely come into use and other more recently introduced, among the chemical derived from biomass, we can mention:

- fuels
- lubricants
- solvents
- polymers
- plastics
- filler
- Basic chemicals (building blocks)
- surfactants and detergents
- Pharmaceuticals, cosmetics, agrochemicals, and other fine chemicals

绿色化学

意大利处于绿色化学的前沿，建成了世界上首批综合性生物炼油厂。

在生物质化学背景下，类似于石化炼油工业的概念，涉及到生物提炼，这是一个从取代了化石来源的原材料（生物质）获取燃料和其他产品的生产系统。



生物炼制的目的是要生产更多种类的产品，利用可再生资源，例如碳源，采用化学，有机和生物技术，与传统化学技术协同作用。

生物炼制采用级联过程，基于单个或多个生物质作为原料，以获得尽可能高附加值的产品，从生命消亡的材料获得能源，或将其重新使用作为生物质（土壤调理剂或肥料）的生产因素，同时考虑到减轻环境污染的做法，特别是温室气体排放和“零垃圾”概念以及有效地利用资源。

生物炼制并不一定要集中在一个单一的系统，也可以在一个链式环境中使用，考虑到原材料供应源和区域影响可以把一些生产迁往当地，可能涉及到中间阶段的处理（选择，集中，加密），最大程度地迁往原产地，这样能够保证生物质的质量，然后开始接下来的运输和改造阶段。

搬迁可以以最佳方式运行可持续性的生产系统，尤其是获得供应的生物质原材料资源，运输的费用和对环境的影响则相对次要。

其产品已经被广泛使用，生物化学衍生物包括：

- 燃料
- 润滑剂
- 溶剂
- 聚合物
- 塑料
- 填料
- 基本化学品（积木）
- 表面活性剂和洗涤剂
- 药品、化妆品、农药 和其他精细化学品

The Clean Tech in Italian Manufacturing

Wood-furniture industry

eco-friendly raw materials, energy efficiency, attentions to the life cycle of the goods are the key aspects on which the supply-chain of Italian wood and furniture industry is investing, to reduce their environmental impact. One Italian in three would indeed be willing to pay a furniture 10% more, just to buy an environmentally friendly product. An interesting trend is the one that sees the steady increase in ecological raw material: the purchase or the production of certified wood is, in fact, becoming a distinctive element, especially for companies active in European or North American markets. Italian companies also are moving toward the use of natural materials and less polluting substances, with the replacement of solvent-based products with the water-based, which are completely odorless, non-flammable and very low level of toxicity, allowing 95% reduction in the release of VOCs (Volatile Organic compounds) than traditional ones.

Textile

In the textile industry, many companies, convinced that sustainable fashion is not only ethically more just, but also more cost-effective and competitive, have developed green solutions for the procurement of materials: from certified organic supply-chains, to recycling and development of innovative fabrics, to the recovery and development of handicrafts. significant are also the investments in process innovation: here, the Research goes towards the development of technologies to reduce emissions, liquid and gas, and reduce energy and water consumption. In recent months, other six Italian companies have signed the Detox commitment, proposed by Green Peace, to eliminate the use of 11 harmful substances from production. In parallel, in Italy we continue to grow the number of the certificates issued by the Institute for Ethical and Environmental Certification - ICEA, for which Italy maintains its second

position in the European context. The introduction into the market of "second-life" yarn and fabric is one of the most interesting drivers for developing sustainable products. Recycling is not only helpful to reduce the environmental impact, but it can create a new internal supply chain and resulting jobs, reducing dependence on Countries producing raw materials.

mechanical engineering

the Italian mechanical engineering is investing since a long time in innovation, to produce environmentally-friendly systems that allow their users to minimize the use of resources - energy, water, raw materials - and contain costs. Environmental sustainability becomes an important asset to compete in a market characterized by strong competition from Asian products at low cost, which, however, do not guarantee the quality and the reliability. And it is indeed a country in the Far East, China, to be the target market of the Italian mechano-textile industry. In the absence of models, for the development of sustainable products, designed specifically for the machine tool sector, the Italian manufacturers are voluntarily adopting instruments that certify the environmental performance of their products. The transparency of technical information thus becomes the first step to make visible the focus of Italian businesses to eco-compatibility issues.

意大利的清洁能源技术

木制品工业链

生态原料、能源效率、注重产品生命周期是意大利木制品工业链为减少对环境的影响而投资生产的关键词。三分之一的意大利人愿意多支付 10% 的费用购买生态产品。一个有意思的趋势是生态原材料的不断增长：认证木材的购买或生产正在成为一个独特的元素，尤其是对于欧洲和北美市场的企业。此外，意大利公司正致力于使用天然材料和少污染物质，替代水的溶剂，完全无味、不易燃、极地的中毒性，以减少 95% 的 COV (挥发性有机化合物) 的排放。

纺织业

纺织业的许多公司以可持续的方式生产，他们不只是出于道德更加正确的考量，而且从经济角度这样也更具成本效益和竞争力，他们已经开发了材料供应的绿色解决方案：从有机认证链到创新面料的回收发展，到手工产品的恢复与开发。更有意义地是在工艺创新上的投资：研究发展

技术，以减少排放，液体的和气体的，并控制水和能源的消耗。

在最近几个月，其他 6 家意大利企业签署承诺排毒，提倡绿色和平，消除生产中 11 种有害物质的使用。同时，在意大利，ICEA（伦理环境认证协会）颁发的认证书继续增长，藉以意大利维持其在欧洲框架内的第二的位子。在纺织市场引入“第二人生”的概念是可持续产品定义的最重要的驱动力之一。回收再利用不仅有助于减少对环境的影响，也可以创建新的内部的供应链作业，减少对原材料供应国的依赖。

工具机械

意大利的工具机械一直在创新方面投入很多，以建设生态友好型系统，尽可能少的利用资源——能源、水、原材料和降低成本。在与亚洲廉价产品激烈竞争的市场上，环境的可持续性已成为重要的资产。中国作为一个远东国家，是意大利纺织机械的一个大的目标市场。由于缺少在机床领域可持续产品的模具，意大利制造商乐于采用能证明其产品环保性能的工具。技术信息的透明是展示基于生态友好主题的我们的企业的第一步。

Company List 公司名单

6V SRL



Full Profile (English) 完整资料 (英文)

6V is a JV between Trevi SpA and 3V Green Eagle that provides services in site remediation and environmental restoration of soils and sediments contaminated from hydrocarbon and heavy metals through on-site techniques.

Full Profile (English Version, max of 2245 characters, spaces included)

6V was born from a JV between Trevi SpA and 3V Green Eagle, thanks to the deep know-how of both partners 6V services and technologies optimize the performance of site remediation and environmental restoration through on-site techniques.

6V is able to provide comprehensive services that include management, treatment and recovery of soils and sediments contaminated from hydrocarbon and heavy metals and also confinement of polluted sites.

Through on-site activity mobile plants, that 6V can install worldwide, the company has a "zero waste" approach, and can drastically reduce waste to landfill, and – as a result of the treatment – provide the client with clean water, sand and gravel that can be reused on site in other activities (i.e. construction work, agriculture etc.) without interrupting the on-going activities on site.

The benefits are both environmental and economic. The onsite technique returns to the client cleaned soil, sand, gravel and water that can be reused for different activities, cutting off simultaneously all the costs of buying new construction materials and the dump management costs, such as the polluted soil and sediment transport and the rent and restoration that have to face a regular ex-situ remediation reducing simultaneously the Environmental Impact due to the traffic of the truck on the roads.

In order to provide the best services in compliance with the specific environmental needs we are keen to evaluate different types of collaboration such as partnerships and Joint Ventures with local companies operating also by transferring 6V technologies and know-how.

Furthermore, considering that both, Trevi Group and 3V Green Eagle, have local branches in China 6V is ready to operate in the country.

Full Profile (Chinese) 完整资料 (中文)

6V 是由意大利特莱维集团和 3V 绿鹰公司组建的合资企业，得益于双方合作伙伴的深厚专业知识，6V 通过原位技术来优化场地修复和环境恢复的效果，包括管理、处置和回收受污染土壤和沉淀物以及受污染场地隔离等技术。

6V 可在世界范围内安装现场移动工厂，通过“零废物”的方式，可以大幅减少垃圾填埋，同时为客户提供干净的水，沙子和砾石，也可用于不同现场的活动。

该项目不仅可以减少环境污染，也带来了经济效益。现场技术向客户提供清洁土壤、砂、砾石和水，可再次利用于不同的活动，同时消减原料采购及管理成本。

为了提供符合特定环境需求的最佳服务，我们渴望评估不同模式的合作，例如合作伙伴和合资企业，转让 6V 技术及专有技术。

此外，考虑到 Trevi 和 3V 绿鹰公司在中国设有分支机构，我们已经准备在中国开展业务。

Year of establishment 成立时间	2014	Contact person 联系人	Mr. Ennio Rao
Annual turnover (EUR) 年营业额	1,000,000 - 2,000,000	Phone number 电话	+39 02 98 171 857
Number of employees 员工人数	0 - 9	Email 邮箱	erao@6v-italy.com
Website 网站	www.6v-italy.com	Address 地址	Via fatebenefratelli, 20, Milan 20121 Italy 意大利
Business Registration Number 统一社会信用代码	IT08727330964		

AMBIENTE SC



Full Profile (English) 完整资料 (英文)

We are an environmental engineering company with in-house laboratories for environmental, chemical and biological tests. Our story began 35 years ago when the environmental protection was beginning to be discussed by lawmakers. Our training has taken place in Italy, a country in which the environmental laws have grown rapidly over the years and where the geomorphological features of the area, varied in its shape and densely conform to human requirements, are particularly complex, the daily confrontation with new and newer issues has allowed us to gain a unique experience we make avail to enterprises and institutions.

We can count of the work and passion of 250 engineers, experts in engineering, scientific, legal and economic matters.

Our offices are located in various regional areas apt to answer the territorial needs of the entire Country with specific competence.

Thanks to our experience, competence and commitment, we are able to face the growing environmental needs effectively in European and non-European Countries including China.

Solid skills, multidisciplinary approach, constant updating and effective communication with the institutions. These are the characteristics that make us the ideal partner for the solution of any issue connected to the environment.

We offer the guarantee of an integrated planning and synergic planning between the various themes, in line with reference regulatory requirements and with an eye on the cost-benefit ratio.

Our aim is to identify, thanks to the understanding of specific needs, the best answer for each situation, both in professional and economic sustainability terms.

We can directly manage the relationship with the controlling authorities directly, relieving our clients of this complex task, starting from the study and planning phase and until the activity is fully running.

We work for private and government organizations.

Our customers include companies in the industrial and energy sector, large enterprises of the oil&gas sector, building and infrastructure companies, reclamation and depollution firms, financial groups.

In the public world, we work for administrative institutions, for utility companies and territorial management institutions.

The Engineering sector deals with environmental permitting and with the assessment of the impacts in the industrial, energy planning areas and the mitigation of impacts, of the management of environmental aspects for the construction of infrastructures and their insertion in the territory, the study and planning of reclamations and the safety of polluted areas and abandoned dumping areas.

The staff consists of engineers, chemists, biologists, geologists and agronomists, but also economists and legal experts, sociologists, doctors and experts in the field of safety and health at the workplace.

The Laboratory sector, as well as providing a constant support to the activities of the engineering area, operates autonomously for chemical and biological tests. For the environmental sector, it performs characterizations of the polluted areas aimed at reclamation projects, the monitoring of water, air, support ground for the construction of major infrastructures, tests for the classification of waste and the characterization of wastewater for remediation activities and industrial processes, the characterizations of groundwater, surface and marine water for the study and characterization of the territories.

For the food sector, chemical tests, biological and consulting activities for food processing companies.

The result of the activities is a complete service for the analysis and consultancy that allows obtaining the conditions to manage environmental issues in compliance with the regulations, the prevention of impacts and protection of the territory.

Full Profile (Chinese) 完整资料 (中文)

我们是一家环境工程公司，拥有内部实验室可用于环境、化学和生物测试。

我们的故事始于 35 年前，当时立法者开始研究环境保护的问题。我们的公司在意大利成长起来，这个国家多年来环境法律发展迅速，并且该地区的地貌特征各异、地况复杂，能够密切满足人类对生存环境的要求，因此每天都不断有新的环境问题出现，这使我们获得了可以运用于企业和机构的独特成长经验。

我们有工程师、工程专家、科学专家、法律专家及经济专家共 250 名，他们工作认真，极具热情。

我们在不同地方设有办事处，每一处都能满足当地国家的地域需求。凭借我们的经验、能力和信实，我们能够有效满足不同国家对环境提出的不同要求，包括欧洲和中国等非欧洲国家。

扎实的技能、多学科的方法、不断更新和有效沟通，使我们成为解决环境问题的理想合作伙

伴。

我们提供各种主题之间综合规划和协同规划的保证，符合参考监管要求并着眼于成本效益比。我们的目标是通过理解特定需求，在专业和经济可持续性方面针对每种情况提出最佳解决方案。

从研究和计划阶段开始直到活动全面运行，我们可以直接管理与控制当局的关系，从而减轻客户的负担。

我们为私营机构和政府机构工作。我们的客户包括工业和能源行业的大型企业、石油天然气行业的大型企业、建筑和基础设施公司、回收和污染消除公司和金融集团。在公共领域，我们也为行政机构、公用事业公司和领土管理机构工作。

工程部门负责环境许可和工业、能源规划领域和减缓影响的评估、管理基础设施建设及其在该领域的环境影响管理、研究和规划 填海工程以及污染地区和废弃堆场的安全。工作人员由工程师、化学家、生物学家、地质学家和农学家组成，还包括工作场所安全与健康领域的经济学家和法律专家、社会学家、医生和专家。

实验室部门也不断支持工程领域的活动、自主进行化学和生物测试。对于环境部门来说，它表征了污染地区的特点，旨在填海工程、监测水、空气、建设主要基础设施的支持地点、废物分类测试以及修复活动和工业过程废水表征、地下水、地表水和海水的特征以用于研究和描述领土。

对于食品行业，有化学测试、生物和食品加工公司的咨询活动。这些活动提供完整的分析和咨询服务，以便获得符合规定的环境问题管理条件，预防不利影响和保护领土。

Year of establishment 成立时间	1984	Contact person 联系人	Nicola Bertolini
Annual turnover (EUR) 年营业额	10,000,000 - 25,000,000	Phone number 电话	+39 0585 855624
Number of employees 员工人数	100 - 249	Email 邮箱	international@ambientesc.it
Website 网站	www.ambientesc.it	Address 地址	Via Frassina, 21, Carrara 54033 Italy 意大利
Business Registration Number 统一社会信用代码	IT00262540453		

ANIMA - FEDERATION OF ITALIAN ASSOCIATIONS OF MECHANICAL AND ENGINEERING INDUSTRIES



Full Profile (English) 完整资料 (英文)

ANIMA - Federation of Italian Associations of Mechanical and Engineering industries - Is the industrial organization which within Confindustria represents companies of mechanics, which employ 213.000 employees for a turnover of more than 46,7 billion Euro and export share / turnover of 57,9% (Pre-consumptive 2017).

Born in 1914, The Federation numbers within its organization as well 60 Associations e product groups and it has more than 1000 associated companies, Among the most qualified in their respective sectors.

I macro-sectors represented by ANIMA are: machines and plants for the production of energy and for the chemical and oil industry - assembly of industrial plants; logistics and goods handling; water and food technology and equipment; technologies and products for the industry; plants, machines produced for the building industry; machines and systems for human and environmental safety; metallic constructions in general.

ANIMA protects the interests of the mechanical industry in general, represents and promotes in Italy and abroad the companies and products, alongside the members with regard to the technical and economic issues and is therefore the most important initiative at national and international level for the Italian companies of the mechanical.

ANIMA is a consolidated organization that has among its aims to offer businesses the skills, knowledge and high value-added services

Full Profile (Chinese) 完整资料 (中文)

ANIMA - 意大利机械工程协会联盟 -是在意大利工业家联合会中代表机械公司的工业组织，拥有员工 213,000 名，营业额超过 467 亿欧元，出口份额/营业额达 57.9%（2017 年预消费）。该联盟成立于 1914 年，在其组织内拥有 60 个协会，并拥有超过 1000 家关联公司，均为各自行业中的佼佼者。

由 ANIMA 代表的宏观行业有：用于能源生产及化工石油工业的机器和设备 - 工业设备组装;物流及货物处理;水及食品技术与设备;工业技术和产品;用于工业制造的设备及机器;用于人类和环境安全的机器和系统;金属结构。

ANIMA 保护机械行业的利益，并在意大利及国外宣传推广企业及产品，各联盟成员共同解决技术和经济问题，因此代表了意大利机械公司在国内外的最高水平。

ANIMA 是一家综合性组织，旨在为企业提供服务，知识和高附加值服务。

Year of establishment 成立时间	1914
Annual turnover (EUR) 年营业额	2,000,000 - 5,000,000
Number of employees 员工人数	10 - 49
Website 网站	www.anima.it

Business Registration Number 统一社会信用代码	/
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Contact person 联系人	Andrea Orlando
Phone number 电话	+390245418500
Email 邮箱	anima@anima.it
Address 地址	Via Scarsellini, 11, Milan 20161 Italy 意大利

AUTEC SRL



Full Profile (English) 完整资料 (英文)

Since 1986, AUTEC has designed, manufactured and marketed wireless control systems equipped with safety functions that are verified by independent entities, mainly for the mobile machinery, environmental machines, construction, industrial lifting and automation sectors. AUTEC has become known around the world for its strength in creating customized wireless solutions that fit the specific requirements of its customers. Radio remote controls are designed and produced in a unique manufacturing plant, in Caldogno, so they are definitely "MADE IN ITALY", designed for maximum reliability and robustness. Through continuous technological evolution, AUTEC works to provide ideal tools for machine control, ensuring the best possible working conditions and increasing productivity and safety. The components used are subject to strict qualification tests, while the specific functionalities of each product system are verified over the course of the manufacturing process. Around 200 employees work for Autec worldwide. Autec has an international sales and service network with customer support that spans the globe and also 5 subsidiaries, included Autec China Co. Ltd. in Shanghai.

Full Profile (Chinese) 完整资料 (中文)

自 1986 年始，意大利 AUTEC 公司始终致力于设计开发、生产及营销具有安全功能的无线遥控系统，其产品经各独立实体的广泛使用验证，主要应用于移动机械，环境机械，建筑，工业起重及自动化等各个领域。AUTEC 公司具有能针对客户特定需求创建定制无线解决方案的超强能力，从而成为业界内世界闻名的企业。无线电遥控器的设计和生产完全是在位于意大利 Caldogno 的工厂内完成的，因此是绝对纯正的“意大利制造”产品，具有最佳的可靠性和坚固性。通过持续不断的技术发展，AUTEC 公司努力为机械控制提供理想的工具，以确保最佳工况条件，并提高生产效率和安全性。所使用的零件必须经过严格的性能测试，而每个产品系统的具体功能性在整个的生产过程中得到反复的验证。AUTEC 公司在全球各地拥有约 200 名员工。AUTEC 公司的国际化销售和客户服务网络遍布全球各地，并拥有包括傲克（上海）贸易有限公司在内的 5 家海外子公司。

Year of establishment 成立时间	1986	Contact person 联系人	Michele Zavan
Annual turnover (EUR) 年营业额	10,000,000 - 25,000,000	Phone number 电话	+ 390444901000
Number of employees 员工人数	100 - 249	Email 邮箱	michele.zavan@autecsafety.com
Website 网站	www.autecsafety.com	Address 地址	Via Pomaroli, 65, Caldogno (VI) 36030 Italy 意大利
Business Registration Number 统一社会信用代码	IT01850360247		

BIOSEARCH AMBIENTE SRL



Full Profile (English) 完整资料 (英文)

Biosearch Ambiente was established in 2001 at the Environment Park of Turin, Italy. We offer solutions for the remediation of contaminated sites, based on bioremediation technologies that offer excellent results, high economic sustainability and low environmental impact. The bioremediation approach is a relatively simple yet powerful tool that works by optimizing and exploiting the natural biodegradation processes of pollutants carried out by microorganisms living in the environment. It is an environmentally sustainable technology because it does not generate waste, instead allowing for the recovery of the treated matrix, which is returned to its vital functions. No waste transportation and landfill fees means a further significant reduction of the remediation cost, compared to other non biological systems.

Our technology is effective in the remediation of some of the most diffused toxic contaminants: it has demonstrated to be particularly suitable for the in-situ clean up of hexavalent chromium, petroleum hydrocarbons, chlorinated solvents and MTBE. The remediation can normally be operated without interrupting the production process in the industrial site.

Our approach is site-specific: the intervention is defined starting from microcosm tests carried out in our microbiology laboratory and with specific field tests. The results obtained with the preliminary tests are then translated to the full-scale intervention according to the client needs and in full compliance with state laws and regulations.

Our highly experienced and dedicated team of professionals aims at offering the best remediation service; we constantly invest in research, thus improving our technologies portfolio and developing new methods of intervention. Research and development activities are carried out in our environmental microbiology lab and also in collaboration with like-minded companies and public research institutions. Biosearch Ambiente is recognized by the Italian Ministry of Education, University and Research and is listed in the National Research Registry (research and experimental development on natural sciences and engineering).

Full Profile (Chinese) 完整资料 (中文)

Biosearch Ambiente 于 2001 年在意大利都灵的环境园成立。我们运用生物修复技术，为污染区域提供高质量，经济可持续和低污染的整体解决方案。该生物修复技术相对简单但是非常成熟有效，它通过对污染物在微生物环境中自然生物降解的过程进行优化和开发，来进行区域修复。而且该技术非常环保，因为它并不会产生废料，相反，它是通过对处理过的基质进行修复后，来还原其本质的功能。相比其他非生物系统的污染修复技术，此方案无额外的废料运输和填埋，意味着更有效的节约成本。我们的技术对于解决大多数分散的污染物非常有效：目前已被证实非常适用于六价铬，原油，碳氢化合物，氯化溶剂和甲基叔丁基醚的就地清理。而且该修复技术能在不干扰工厂生产的情况下正常运作。

我们的技术会根据特定的场所进行设计：首先在我们微生物实验中进行小规模针对性测试，之后根据实验室的初步结果和客户的需求进行大规模的介入。我们会尽量最大的配合当地相关行业标准和法律。

我们富有多年相关经验的专家团队，致力于提供最好修护方案服务。我们持续专业地在该领域进行科研来提升我们技术价值，并发展更新的解决方法。我们的环境微生物实验室持续进行着研究和开发的工作，同时与相同理念的公司和公共研究机构合作。Biosearch Ambiente 得到意大利教育部，大学，科研机构的认可，并收录于国家研究注册名单里面（自然科学和工程研究发展）

Year of establishment 成立时间	2001	Contact person 联系人	Dario Siccardi
Annual turnover (EUR) 年营业额	0 - 1,000,000	Phone number 电话	+390110150250
Number of employees 员工人数	0 - 9	Email 邮箱	info@biosearchambiente.it
Website 网站	www.biosearchambiente.it	Address 地址	Via Tetti Gai, 59, Alpignano (TO) 10091 Italy 意大利
Business Registration Number 统一社会信用代码	IT08230910013		

CAPRARI SPA



pumping power

Full Profile (English) 完整资料 (英文)

The Caprari group is a leading independent group on a worldwide level in the production of centrifugal pumps and electric pumps and in the creation of advanced solutions for management of the integrated water cycle and professional sectors such as Oil & Gas, Power Generation, Mining and General Industry.

Its experience in this sector, its continuous innovation, its products' high technological content, the reliability and flexibility of its service have enabled Caprari to become a point of reference worldwide.

Caprari's continuous research is aimed at manufacturing products at the service of the environment, both as its protection and as optimisation of energy performances and savings.

Thanks to exclusive and diversified know-how, Caprari offers the best and most efficient solutions for the main water supplying requirements: from extraction in deep wells to lifting waste and drainage water, supplying and distributing water in residential, industrial and irrigation spheres to the most varied water treatment applications and fire fighting systems.

Full Profile (Chinese) 完整资料 (中文)

Caprari 集团是一家在离心泵和电动泵的生产领域中位居全球领先地位的独立公司。该公司专注于为集成水系统，石油天然气，发电厂和矿业等其他相关专业领域提供高效创新的一系列解决方案。

在此相关领域中，Caprari 凭借多年经验，连续创新，高效的技术产品和其可靠灵活的服务成为了世界级的领先企业。

Caprari 侧重于对制造产品的环境服务进行探索，包括环境的保护和能耗的节约优化。

归功于独有和多元化的技术支持，Caprari 能提供最佳和最高效率的供水设备优化方案：从深井的抽取到废水废渣的起重排放，供应到居民、工业的分配，农业的灌溉，再到一系列的水处理应用和防火系统。

Year of establishment 成立时间	1945	Contact person 联系人	Massimiliano Palaia
Annual turnover (EUR) 年营业额	100,000,000 - 250,000,000	Phone number 电话	+862153865192
Number of employees 员工人数	500 - 749	Email 邮箱	m.palaia@caprari.com
Website 网站	www.caprari.com	Address 地址	CAPRARI PUMPS SHANGHAI Floor 4, No. 456 Liangxin Road, Laogang Industrial Park, Pudong, Shanghai 201302 China 中国
Business Registration Number 统一社会信用代码	IT01779310364		

CIB UNIGAS SPA



Full Profile (English) 完整资料 (英文)

CIB Unigas, the first company entirely dedicated to the production of gas burners of extraordinarily high quality. Thanks to its "Zero Emissioni NOx" research project, CIB Unigas is taking an active role in setting new standards in the field of environment-friendly design.

Established in 1972, in the north part of Italy, CIB UNIGAS has been growing exponentially, building specialist know-how to develop the Low NOx burners. For over 45 years, CIB UNIGAS has been designing and building a complete range of the burners up to 80 MW. For this reason all of our models have always guaranteed levels of pollutant emission that are decidedly lower than the limits required under international legislation for our sector. Thanks to its "Zero Emissioni NOx" research project, CIB Unigas is taking an active role in setting new standards in the field of environment-friendly design. Our intense concern for the environment is also demonstrated by our marketing of innovative Low Nox burners (NOx emissions < 30 mg/kWh) systems as an added energy solution for large-scale industrial plants (more than 1.000 installations in China). CIB UNIGAS maintaining this leadership involves communicating these values at every stage of production, organization, finance and marketing - in order to share the progress we have achieved with all our clients, as well as among ourselves and our network of representatives.

Full Profile (Chinese) 完整资料 (中文)

CIB UNIGAS 成立于 1972 年，在意大利北部地区，以倍数的速度成长，开发低氮氧化物燃烧器的专业技术。在过去的 45 年中，CIB UNIGAS 一直专注于设计和生产全套最大功率达到 80 兆瓦的燃烧器，并始终保证产品的污染物排放水平低于国际立法要求的限制。得益于其“零排放氮氧化物”研究项目，CIB Unigas 积极参与环保设计领域的新标准制定。我们对创新型低氮氧化物燃烧器（氮氧化物排放

Year of establishment 成立时间	1972	Contact person 联系人	Alberto Noventa
Annual turnover (EUR) 年营业额	25,000,000 - 50,000,000	Phone number 电话	+390499200944
Number of employees 员工人数	100 - 249	Email 邮箱	noventa.alberto@cibunigas.it
Website 网站	www.cibunigas.it	Address 地址	via Galvani, 9, Campodarsego 35011 Italy 意大利
Business Registration Number 统一社会信用代码	IT00820450286		

DECOMAR SPA



Full Profile (English) 完整资料（英文）

DECOMAR LIMPIDH2O® aims to solve the several problems of environmental impact that arise when using traditional methods of dredging.

Such problems are mainly bound to the phenomenon of the suspension of sediments, which produces turbidity of water bodies, disturbances in the biotic life and the release of potential contaminated material.

The innovative LIMPIDH2O® recirculating technology represents the best way to reach effective solutions in special remediations and maritime, lacustrine or fluvial works.

This innovative technology is currently the only eco-dredging system able to work according to the guideline of the European Community Ecoinnovation action plan 2020, that aims at an eco-friendlier economy and technological progress.

DECOMAR LIMPIDH2O® fully meets the requirements of the Italian law regarding environmental protection, the technology used for dredging in harbour as well as the remediation in S.I.N – S.I.C – S.I.R settings and protected environments.

Full Profile (Chinese) 完整资料（中文）

DECOMAR LIMPIDH2O® 旨在解决使用传统方法清淤时引起的主要环境问题。

这些问题主要集中在沉积物的二次污染现象，造成水体浑浊、影响水生物、释放潜在污染物质。

创新的 LIMPIDH2O®循环技术代表了在特殊补救措施和在海洋、湖泊或河流工程中达成有效解决方案的最佳途径。这项创新的技术是目前唯一能够根据“2020 欧洲共同体生态创新行动计划”的指导方针作业的生态清淤系统，该计划旨在实现生态友好型经济和技术进步。

DECOMAR LIMPIDH2O®完全符合意大利针对环境保护、港口清淤技术以及欧盟和意大利特定环保地区的修复的要求。

Year of establishment 成立时间	2010	Contact person 联系人	Gianni Depperu
Annual turnover (EUR) 年营业额	0 - 1,000,000	Phone number 电话	+390585830982
Number of employees 员工人数	10 - 49	Email 邮箱	gianni.depperu@decomar.it
Website 网站	www.decomar.it	Address 地址	Via Dorsale, 9, Massa 54100 Italy 意大利
Business Registration Number 统一社会信用代码	IT01988650501		

DULEVO INTERNATIONAL SPA



Full Profile (English) 完整资料 (英文)

Dulevo International is the leading Italian manufacturer in the industrial and urban cleaning sector, thanks to its street sweepers and indoor and private floor care products. Present in over 80 countries worldwide, Dulevo International is a leading global manufacturer, boasting a state-of-the-art research and development facility and an annual production capacity in excess of 2,000 machines.

The world changes, cities change. Municipalities are paying more and more attention to the environment and the means to reduce the impact on both the land and its inhabitants to as great an extent as possible. Subsequently, when it comes to its own products, Dulevo International has always been committed to reducing the harmful emissions associated with the best-performing machines.

Through important partnerships and company-owned patents, it has perfected its dust filtration systems, thereby eliminating PM10 emissions altogether.

With the mechanical suction system, Dulevo International has obtained a significant reduction in the noise levels emitted by its machines, enabling the operators to work effectively without creating acoustic disturbances.

Over the years, Dulevo International is the only European company able to design and produce a methane gas-powered sweeper, capable of ensuring emissions below the most stringent of limits enforced by the law.

DULEVO ELECTRIC SWEEPER:

ZERO EMISSIONS, TOP PERFORMANCE

Today, Dulevo International has designed its first fully electric street sweeper, guaranteeing an optimum performance and minimal environmental impact.

The new machine has been created to comply with four fundamental characteristics that constitute its design philosophy and that make it a unique product within the sector.

Full Profile (Chinese) 完整资料 (中文)

道路宝国际公司是意大利工业和城市清洁领域的领先制造商。扫街机、室内及私人地板护理产品遍布世界 80 多个国家。道路宝国际公司拥有先进的研究和开发设备，年产量超过 2000 台，是全球领先的制造商。

世界在变化，城市也在变化。市政府越来越重视环境，并且尽可能在最大程度上减少其对土地及居民的影响。道路宝国际公司始终致力于减少性能最优机器所造成的有害排放。

通过重要合作及公司自有的专利，完善了粉尘过滤系统，从而完全消除了可吸入颗粒物的排放。

通过机械吸尘系统，道路宝国际公司大幅降低了机器噪音水平，使操作员能够有效工作而不会产生声音干扰。

多年来，道路宝国际公司是唯一一家能够设计和生产利用沼气驱动的清扫车的欧洲公司，能够确保排放量低于法律强制执行的最严格限值。

DULEVO 电动清扫器：

零排放，高性能

今天，道路宝国际公司设计了其第一款全电动街道清扫器，保证了最佳的性能及最小的环境影响。

新机器的设计符合构成其设计理念的四大基本特征，使其成为该领域内独一无二的产品。

Year of establishment 成立时间	1976	Contact person 联系人	Davide Scimia
Annual turnover (EUR) 年营业额	50,000,000 - 75,000,000	Phone number 电话	+390521827711
Number of employees 员工人数	100 - 249	Email 邮箱	d.scimia@dulevo.com
Website 网站	www.dulevo.com	Address 地址	via G.Guareschi,1, Fontanellato (PR) 43012 Italy 意大利
Business Registration Number 统一社会信用代码	IT01767940347		

ECOFAST ITALIA SRL



Full Profile (English) 完整资料 (英文)

DEWATERING TECHNOLOGY FOR FOOD WASTE

Food waste is pre-treated in suitable stainless steel intake stations equipped with heavy duty macerators and then dewatered by a special centrifuges. Our DEHYDRA dewaterers reduce the volume of food waste by 80%, its mass by up to 60% and fermentability rate of the dewatered matters. By collecting ground and dewatered food waste we achieve the following environmental goals: less large vehicles on site and on the roads; less noises from collections, less requirements for pest control, less odors, less air pollution. The liquid freed by the dewaterer process is fed directly to drain as "grey water", a rapid biodegradable carbon source (rbCOD) for the removal of nitrogen and phosphorous in the biological treatment of wastewater in municipal waste treatment plant (Certificate released by SIMAU Department - Università Politecnica delle Marche -Italy).

REWISER: THE ON SITE FOOD WASTE SOLUTION FOR HIGH RISING BUILDINGS

REWISER is a model for the food waste management in residential high rising buildings whose first worldwide installation has been carried out in Ansan City, South Korea, last October 2017. The 5 years time project has been engineered to collect food waste in 10 buildings of a new block of 634 apartments. A network of 2nd generation food waste disposers, installed beneath the kitchen sink of each single apartment, is connected to a centralized collecting unit made up by a temporary storage tank + 1 or 2 high capacity dewaterers + a drier machine. All the food waste is now automatically processed, dewatered and dried on site (volume reduction up to 95%) and instead of heading for landfill disposal, the building ground area is benefitting with the very best quality of rich food waste fertilizer.

The implementation of these technologies on large scale required a B"B approach with Municipality, Multi-Utility companies and Real Estate Developers.

Full Profile (Chinese) 完整资料 (中文)

食物垃圾脱水技术

食物垃圾首先在不锈钢收取站通过破碎切割机进行预处理，然后被特殊的脱水机脱水。而我们 DEHYDRA 脱水机能有效减少食物垃圾 80%的体积，减少食物垃圾 60%的质量和减少脱水后食物的发酵速率。通过收集脱水食物这项举措我们可以实现以下环保目标：减少垃圾场和公路上的货车数量，减少收集作业产生的噪音，减少蚊虫控制人力物力，减少臭味气体和空气污染。

脱水过程中释放的液体“脏水”会直接进入排水管。此处“脏水”是快速生物降解的碳源（rbCOD），用于去除城市垃圾处理厂废水中产生的氮和磷。（该技术获得 SIMAU Department - Università Politecnica delle Marche –意大利的认证）。

REWISER: 高层建筑的现场食物残渣处理解决方案

REWISER 是高层建筑食物垃圾处理方案的典范。2017 年 10 月在韩国安山市进行全球性首次安装。该项目 5 年来被设计用于收集 10 栋建筑，634 间公寓的食物垃圾。每个单间公寓的厨房水槽下面安装了第二代食物垃圾处理器网络，连接到由临时储罐，和 1 或 2 个高容量脱水机、干燥机组成的集中式收集单元模块。所有食物垃圾现场自动加工，脱水和干燥（体积减少高达 95%），替代了填埋处理方案，该建筑区域因此得到了优质的富含食物垃圾的肥料。

如果想大规模实施这些技术需要采用 B2B 的方法，并得到市政府，各行各业的公司还有房地产开发商的支持。

Year of establishment 成立时间	1998	Contact person 联系人	Davide Mara
Annual turnover (EUR) 年营业额	0 - 1,000,000	Phone number 电话	+390266111618
Number of employees 员工人数	0 - 9	Email 邮箱	davide.mara@ecofast.eu
Website 网站	www.ecofast.eu	Address 地址	Piazza Franco Martelli, 5, Milan 20162 Italy 意大利
Business Registration Number 统一社会信用代码	IT12629890158		

EEGEX – ENERGY ENVIRONMENT GLOBAL EXCHANGE



Full Profile (English) 完整资料（英文）

EEGEX is an Italian Science and Trade Association, established on January 2015, whose statutory purpose is to promote the international exchange of technologies and know-how in the areas of Environment and Energy. EEGEX helps all the interested Organizations (Companies, Research Facilities, Universities, Public Administrations and Agencies, etc.) to establish and develop relationships with potential partners, aimed to start up and manage initiatives of technology and know-how transfer and business agreements.

We establish relationships and sign cooperation agreements with Public and Private Organizations, with which we share purposes and goals, we also get official accreditation by Public Administrations, all to prepare a platform of services to assist who seeks our help and to establish complex work Programs.

Our Programs aim to establish contacts and relationships with local Public Administrations and Agencies, attend tradeshow, meetings and business matchmaking sessions, arrange exchanges of business and institutional delegations, organize demonstration activities and projects, arrange training and education

Full Profile (Chinese) 完整资料（中文）

EEGEX 成立于 2015 年 1 月，是一家旨在全球范围内推动关于环境及能源领域的技术转移及国际合作的意大利科学和贸易联合会。 EEGEX 通过建立分布在中国，欧洲以及美国的利益相关者网络，从而承接并扩大了原由意大利国家环境监测评估协会实施的一系列国际性活动。

EEGEX 帮助所有对 EEGEX 感兴趣的组织（企业，研究机构，院校，政府部门等等）开发建立潜在合作伙伴，旨在建设及管理技术转移及商务协议。

我们与公共和私人的企业建立合作关系并签署合作协议，在此基础上我们共享目标。同时，我们也得到政府官方的委派来建立一个平台以协助寻求我们帮助的组织并协助建立复杂项目。

我们的项目旨在：

与当地政府及机构建立联系及合作

出席参加贸易展

出席并组织会以及商务对接

组织双向的商务考察

安排组织示范活动及项目，协调技术及解决方案的转移

组织课程培训

Year of establishment 成立时间	2015	Contact person 联系人	Simone Padoan
Annual turnover (EUR) 年营业额	0 - 1,000,000	Phone number 电话	+393296918306
Number of employees 员工人数	0 - 9	Email 邮箱	staff@eegex.com
Website 网站	www.eegex.com	Address 地址	Via Torino, 63, Venice 30172 Italy 意大利
Business Registration Number 统一社会信用代码	IT04279640272		

EXXRO SRL



Full Profile (English) 完整资料 (英文)

Exxro S.r.l. is specialized in building Ultrafiltration plants, Nanofiltration and Reverse Osmosis, using high-performance flat membranes, and during the latest years it is emerging as one of the most important Italian companies in the leachate purification of municipal solid waste landfills and industrial waste water sector.

We build a wide range of Reverse Osmosis Plants with flat membranes, technologically advanced for the landfill leachate treatment. Plants are built on specific customer request and they're specifically studied to solve every purification problem for each kind of waste water. A continuous monitoring system of outgoing water parameters ensures the safety of the water to the drain according to the discharging table of legislation.

Our plants can be utilized in most different fields of applications, for example:

- Purification of land II Leachate
- Purification of Industrial Waste Water
- Reclaim of Fluids from process rinsing and waste water
- Desalination of sea water for drinking water production.

Full Profile (Chinese) 完整资料 (中文)

Exxro S.r.l. 专注于通过高性能平板膜技术来达到超细过滤，纳米级过滤和反渗透过滤等级的应用。近年来已成为意大利最重要的城市固体废物垃圾填埋场和工业废水渗滤液净化的公司之一。

本公司建造了多种基于平膜技术的反渗透装置，专攻于垃圾填埋的渗滤液处理。工厂为特定的客户进行建造，解决各类废水的净化问题。根据立法排放规定，提供连续出水参数的监测系统，来确保排水的安全性。

本公司的工厂可以用于多数不同领域，例如：

- 地面渗滤液的净化
- 工业废水的净化
- 从工业生产的冲洗和废水中回收流体
- 通过海水淡化至饮用水。

Year of establishment 成立时间	1996	Contact person 联系人	Ezio Saturno
Annual turnover (EUR) 年营业额	2,000,000 - 5,000,000	Phone number 电话	+390108196544
Number of employees 员工人数	10 - 49	Email 邮箱	ezio.saturno@exxro.com
Website 网站	www.exxro.com	Address 地址	Via Lungobisagno Istria, 14, Genova 16141 Italy 意大利
Business Registration Number 统一社会信用代码	IT03611020102		

FOR.TEC. FORNITURE TECNOLOGICHE SRL



Full Profile (English) 完整资料（英文）

For.Tec. Incinerators S.r.l. is an Italian Company with decades of experience designing, manufacturing, selling and installing high-tech ecologic plants: our daily efforts are directed towards the development of perfect solutions to problems arising from waste management, striving to fulfill each customer's needs by giving them the chance to customize their installations. Our production includes:

hospital, medical and industrial waste incinerators

municipal waste incinerators

animal carcasses, slaughterhouse and organic waste incinerators

crematories for corpses and pet

pyrolytic stripping ovens to remove paint, grease and other coatings from metal parts

complete range of equipment to automate the process and make incineration in our plants more efficient

wet scrubbers and dry depuration systems to effluent gases abatement and pollution control

heat recovery systems for hot water/hot-cold air/steam production

Our quality is 100% Made in Italy, our products are all fully CE Certified and they are manufactured in compliance with the most restrictive construction, health and safety and environmental regulations.

Our technical team daily performs, with great professionalism, analysis of customers' specifications, feasibility studies, customized designs and tests, after-sales service and remote assistance.

The strengthening presence on the market of For.Tec. ecologic systems is an indispensable goal towards which all best resources of the Company are continually directed. In this perspective, For.Tec. Srl considers quality as a key strategic tool for the supply of products and services of absolute and certified reliability, efficiency and safety, in order to meet the Company's priority objective, namely customers satisfaction.

The acknowledgment of our commitment to the quality research of our products has been awarded with the issuance of international quality certifications:

ISO 9001 – IQNET | EN ISO 14001 | ISO 9001 – CSQ | EN ISO 15614-1 A (Lloyd's Register) | EN ISO 15614-1 B (Lloyd's Register) | EN ISO 9606-1 A (Lloyd's Register) | EN ISO 9606-1 G (Lloyd's Register)

Full Profile (Chinese) 完整资料（中文）

For.Tec. Incinerators S.r.l.是一家拥有数十年经验，专注于高科技生态工厂的设计、生产、出售和安装的意大利公司：我们针对污染物排放控制管理提供更完美有效的解决方案，力求满足每一个客户的需求，提供专业化的安装。我们的产品包括：

- 医院，医疗和工业废料污染物焚烧
- 城市废料污染物焚烧
- 屠宰场动物尸体和有机物的焚烧
- 人畜尸体火葬场的焚烧
- 热解炉去除油漆，油脂和其他金属构件涂层
- 全范围设备自动化使其焚烧效率更高
- 湿式除尘和干式净化系统去除废水废气，净化和控制
- 热水手系统（热水/热冷空气/蒸汽生产）

我们 100%源于意大利技术，我们的产品通过 CE 认证，生产安装经由最严格的建设标准把关，通过健康、安全、环境官方审核。

我们的技术团队会每日进行维护，从专业角度，客户的需求，可行性调研，客户定制设计和测试等多方面进行售后维护和支持。

For.Tec.生态系统将强大的市场占有率作为必不可少的终极目标，首先就是保证该公司所有最好的原材料都是可定向的。从此看来，For.Tec. Srl 将产品的供应，绝对优质的服务，还有可靠、高效、安全的认证作为关键性战略方针。满足公司优先级目标，也就是最佳的用户体验。

我们承诺产品的质量，经由国际质量检测单位的认可：

ISO 9001 – IQNET | EN ISO 14001 | ISO 9001 – CSQ | EN ISO 15614-1 A (Lloyd's Register) | EN ISO 15614-1 B (Lloyd's Register) | EN ISO 9606-1 A (Lloyd's Register) | EN ISO 9606-1 G (Lloyd's Register)

Year of establishment 成立时间	2003	Contact person 联系人	Evelina Savastano
Annual turnover (EUR) 年营业额	1,000,000 - 2,000,000	Phone number 电话	+390823881105
Number of employees 员工人数	10 - 49	Email 邮箱	evelina@fortec-inceneritori.it
Website 网站	www.fortec-inceneritori.it	Address 地址	Via Nazionale Appia Km. 186.9, Francolise (CE) 81050 Italy 意大利
Business Registration Number 统一社会信用代码	IT02913520611		

GIACOMINI HEATING AND COOLING TECHNOLOGY (BEIJING) CO., LTD.



Full Profile (English) 完整资料（英文）

Since Giacomini S.p.A. was established as a company in 1951, on the shores of Orta Lake, north part of Italy, water played a central role for us. We use it to heat and cool, we distribute and measure it, we work with it on a daily basis. Water means inspiration to us and stands for the ideal elements that help us to focus on human well-being.

Giacomini Asia – Pacific Headquarter based in Hong Kong was established in 2015 with related ownership of all our investment into the region.

Due to the fact that our businesses started nearly 40 years ago in Asia, we decided to open our first Representative Office in Beijing in 2001, to better serve the local requirements. Nowadays, it is a legal Company with over 800 m2 of offices, laboratories, R&D and training center to support the Markets and related Valued Partners all over the Area.

In 2010, we increased our direct investment into the region by opening the offices in Bangkok for the South East Asia and Ulaanbaatar for the Mongolian market. Furthermore, we started our local representative development in major Chinese cities such as Shanghai, Nanjing, Wuhan, Chengdu and Xian.

Our Aim to create a Multi-National culture environment in our team has generated a local structure with international background.

Business Activity

We are a manufacturing company with all our production premises based in Italy, only. Our factories are "our heart". We work from raw materials with craftsman's passion and skill, in order to create useful things for people and for society. Our product is our main focus, we know that our future depends on our ability to get it right and on our willingness to pursue innovation. Because of this, quality and innovation are our everyday mantra.

Giacomini offers the most comprehensive range of heating and cooling products, including: radiant systems for heating and cooling floors and ceilings, thermoregulation, thermal solar and direct and indirect thermal energy metering systems. As one of Italy's leading providers of air conditioning and sanitary distribution, Giacomini is fully committed to leading the way in developing environmentally-friendly solutions for the heating and cooling markets.

Here are the six key business areas of our company:

- Energy Management
- Radiant Systems
- Water Management
- Gas Distribution
- Renewable Sources
- Fire Protection

Full Profile (Chinese) 完整资料（中文）

意大利嘉科米尼于 1951 年成立于意大利北部 Orta 湖岸，水对于我们占据最主要的地位。我们利用她来产生发热和制冷，我们分配并测量它。我们几乎每天都会和它公事。水给予我们灵感，帮助我们更关注人类，它代表了特殊的意义。

嘉科米尼亚太中心位于香港，成立于 2015 年。由于在亚洲我们的业务始于将近 40 年前，为了给当地提供更好的服务，我们就决定在 2001 年将我们的第一个代表公司设在北京。目前，该公司拥有超过 800 平方米的办公场所，一系列实验室，研究开发中心去支持市场的需求，在此领域拥有众多的有价值的合作伙伴。

2010 年，我们增加了我们的定向投资，通过在曼谷设立办公室来开拓东南亚市场，在乌兰巴托设立办公室来开拓蒙古市场。另外，我们在中国也逐步扩大了当地市场，例如上海，南京，武汉，成都和西安。

我们的目标是建立拥有多国文化环境背景的当地团队。

商业活动

我们是一家生产公司，所有的产品均在意大利生产。我们的工厂是我们的核心部分，我们专注于原生材料，始于工匠们高超的技艺和热情，为了给人类和社会创造更有用的价值，我们

的产品是主要的聚焦点，因为我们知道未来取决于我们能否正确的使用我们的能力和对创新的追求。所以质量和创新是我们的企业口号。

嘉科米尼提供了最全方位的热冷处理机，包括辐射采暖系统，制冷底板和天花板，温度调节装置，太阳能发热装置,直接和简介的热能测试系统。作为意大利空调机和换气系统的领头供应商之一，嘉科米尼承诺在制热和制冷器械市场提供最环保的解决方案。

目前我们公司的六大核心领域是：

- 能源管理
- 辐射系统
- 水管理
- 气体配送
- 再生能源材料
- 消防防护

Year of establishment 成立时间	2003	Contact person 联系人	Roberto Ferraro
Annual turnover (EUR) 年营业额	10,000,000 - 25,000,000	Phone number 电话	+86-010-84861901
Number of employees 员工人数	10 - 49	Email 邮箱	giacomini.marketing@giacomini.cn
Website 网站	www.giacomini.cn	Address 地址	北京市朝阳区东三环北路丙 2 号 7 层 08A01 室 100027
Business Registration Number 统一社会信用代码	911101055694500222		

GNR SRL



Full Profile (English) 完整资料（英文）

G.N.R. S.r.l., thanks to its 30 years of experience, is a worldwide market manufacturer of advanced analytical instruments.

G.N.R. S.r.l. design and manufactures Optical Emission Spectrometers (OES) and Rotating Disc Electrode Optical Emission Spectrometers (RDE-OES), X-Ray Diffractometers (XRD) and X-Ray Fluorescence Spectrometers (XRF).

Environmental applications: Horizon (TXRF spectrometer) for fast (seconds) trace analysis of heavy metals in environmental samples with limited or without sample treatment.

Horizon (XRD) for asbestos and free silica determination.

Full Profile (Chinese) 完整资料（中文）

得益于 30 年的经验，G.N.R 是先进分析仪器的全球市场制造商。

G.N.R. 设计和制造光学发射光谱仪（OES）和旋转圆盘电极光学发射光谱仪（RDE-OES），X 射线衍射仪（XRD）和 X 射线荧光光谱仪（XRF）。

环境应用：TXRF 光谱仪，用于快速（秒）追踪分析环境样品中重金属的有限或无样品处理。

用于石棉和游离二氧化硅测定的 XRD 光谱仪。

Year of establishment 1984

成立时间

Annual turnover (EUR) 5,000,000 - 10,000,000

年营业额

Number of employees 10 - 49

员工人数

Website www.gnr.it

网站

Business Registration IT01572250031

Number

统一社会信用代码

Contact person Gabriella Melone

联系人

Phone number +390322882911

电话

Email gnrcomm@gnr.it

邮箱

Address Via Torino,7, Agrate Conturbia (NO)

地址 28010 Italy 意大利

HYDRO ITALIA SRL



Full Profile (English) 完整资料 (英文)

HYDRO ITALIA has been working in the water treatment field for over 25 years obtaining an ever-increasing experience thanks to which cooperates with the most important worldly plant engineering companies.

So far we have installed systems in the following countries: Italy, France, Spain, Portugal, Turkey, Russia, Korea, Slovenia, Czech Republic, Slovakia, Poland, UK, Syria, USA, China, Iran, Argentina, Brazil, India, Thailand, Romania, South Africa.

The development of this experience, according to a precise will of the charter members, has followed two main guidelines closely connected; systems and specific chemical products, pursuing an aim: containing the water consumption by reducing pollutants. At the beginning this philosophy was appreciated by very few operators working in that sector but with the passing of time established itself, becoming the central point of each request.

The high skills of our employees combined with their interest in defence of the environment, has allowed to place our company at the peak of the sector of treatment and recirculation of water in general. The growth of HYDRO ITALIA met a higher interest of Customers in global problems in the sector of water treatment directing the Company to a more exhaustive water policy.

With the help of specialists with long experience in this sector, HYDRO ITALIA has started to design, manufacture and install equipment and systems in the following sectors:

INDUSTRIAL

Pre-treatment and treatment of process water with any type of technology (ion exchange resins, physical-chemical, flotation, oil separation, evaporation, osmosis, etc.)

Drainage final treatment through the most suitable techniques for removal or reuse of pollutants after their treatment

DOMESTIC

Water purifying treatments, filtering, deferrization, manganese removal, softening, demineralisation, microfiltration, ultrafiltration and reverse osmosis

Any type of waste water biological treatment

HYDRO ITALIA, following an uninterrupted development, boasts an internal staff able to guarantee, previously with the supplying of "turnkey" installations, a complete running of the after sales assistance placing at the customer's disposal a chemical department, equipped vehicles and qualified personnel able to guarantee a prompt intervention.

Full Profile (Chinese) 完整资料 (中文)

HYDRO ITALIA 在水处理领域有着近 25 年的经验，与世界上最重要的工厂工程公司合作，不断积累相关工作经验。

目前为止，我们在以下国家建立了系统：意大利、法国、西班牙、葡萄牙、土耳其、俄罗斯、韩国、斯洛文尼亚、捷克共和国、斯洛伐克、波兰、英国、叙利亚、美国、中国、伊朗、阿根廷、巴西、印度、泰国、罗马尼亚、南非。

我们员工的高技能加上他们对环境保护的热爱，使得我们公司在水处理及再循环方面达到了顶峰。HYDRO ITALIA 的发展满足了客户对水处理领域全球性问题的极高兴趣，从而指导公司采用更彻底的水务政策。

在该领域拥有丰富经验的专家的帮助下，HYDRO ITALIA 在以下领域设计，制造和安装设备和系统：

工业

- 水预处理和水处理的各类技术(离子交换树脂、物理化学、浮选、油分离、蒸发、渗透等)
- 通过最合适的去除或再利用污染物的技术进行最终处理。

国内

- 水净化处理，过滤，延缓，锰去除，软化，脱矿，微过滤，超滤和反渗透
- 任何类型的废水生物处理

Year of establishment 成立时间	1992
Annual turnover (EUR) 年营业额	2,000,000 - 5,000,000
Number of employees 员工人数	10 - 49
Website 网站	www.hydroitalia.com
Business Registration Number 统一社会信用代码	IT01509851208

Contact person 联系人	Davide Solmi
Phone number 电话	+39051856263
Email 邮箱	ufficioestero@hydroitalia.com
Address 地址	Via E. Torricelli, 79 - Medicina (BO) 40059 Italy 意大利

IEG – ITALIAN EXHIBITION GROUP SPA - ECOMONDO



Full Profile (English) 完整资料（英文）

ECOMONDO is the Italian leader expo and one of the most important exhibitions in Europe on circular economy and green technologies for the environment.

The full cycle of waste is our core business with a showcase of the most advanced technologies and solutions for: waste treatment, management and waste processing, water and sewage treatment, environmental monitoring and measuring, energy efficiency achievement and resources re-use.

Thanks to a wide range of forums organized with the support of the Scientific Committee, Ecomondo is the platform to debate with experts the main technical issues of the environmental industry sectors.

Full Profile (Chinese) 完整资料（中文）

ECOMONDO 是意大利领先的博览会，也是欧洲在循环经济和绿色环保技术方面最重要的展览之一。

废物完整周期是我们的核心业务，博览会展示了最先进的技术和解决方案，包括废物处理，管理和废物处理，水和污水处理，环境监测和测量，节能成果和资源再利用。

在科学委员会的支持下，组织多场论坛，旨在提供一个与专家商谈环保工业主要技术问题的平台。

Year of establishment 成立时间	2016	Contact person 联系人	Cristina Minghetti
Annual turnover (EUR) 年营业额	100,000,000 - 250,000,000	Phone number 电话	+390541744309
Number of employees 员工人数	100 - 249	Email 邮箱	cristina.minghetti@iegexpo.it
Website 网站	www.ecomondo.com	Address 地址	Via Emilia, 155, Rimini 47921 Italy 意大利
Business Registration Number 统一社会信用代码	IT00139440408		

JCOPLASTIC SPA



Full Profile (English) 完整资料（英文）

JCOPLASTIC SPA, Industria Contenitori Plastici, is an European group of companies which has been in the industrial planning and production of plastic containers for over 50 years.

The head office of the group is based in Italy with several production units:

no.3 factories in Italy, no.2 recycling plants in Italy, no. 4 factories in Europe.

This strength is reinforced by lots of commercial and business collaborations all over the world.

In the production units of the group a trained staff of about 330 workers and employees, having experience and know-how, regularly works to guarantee quality products and services to customers.

Thanks to our R&D department it is possible to plan and achieve new customized products.

All JCO products are injection moulded in High Density Polyethylene of first fusion (HDPE) in the full respect of hygienic rules and food conformity, with characteristics that make them particularly resistant to U.V. infrared rays, acids and alkalis, aging, high and low temperatures. The use of recyclable raw material, the steady care in research and technological updating, have been acknowledged and confirmed by EN ISO 9001:2008 and EN ISO 14001:2015 certifications.

The biggest injection plant is working in the production unit of Battipaglia, Italy where there are 25 presses injection molding machines starting from 190 tons allowing the transformation of about 40.000 tons of polyethylene every year.

Jcoplastic production, which conforms to European rules, is made up of three ranges of products:

WASTE CONTAINERS

AGRICULTURE BOXES

INDUSTRIAL BOXES AND PALLETS.

The proof of Jcoplastic know-how, capacity and experience is represented by all the main municipalities all over the world that have been chosen JCO products for their waste management and private companies from agro industrial sectors.

Full Profile (Chinese) 完整资料（中文）

JCOPLASTIC SPA 是一家在塑料容器的工业设计和生产领域有 50 多年经验的欧洲集团公司。

该集团的总部位于意大利，拥有多家生产中心：

意大利 3 家工厂，意大利 2 家回收工厂，欧洲 4 家工厂。

世界各地的商业和贸易合作加强了这种优势。

在该集团的生产中心中，有 330 名经验丰富且专业知识扎实的工人和员工，为客户提供高质量的产品和服务。

在研发部门的支撑下，我们设计并开发新的定制产品。

JCO 的所有产品均采用高密度聚乙烯（HDPE）注塑成型，充分遵守卫生规范和食品一致性，并具有特殊的特性，使其特别耐 U.V. 红外线，酸和碱，老化，高温和低温。使用可循环原材料，专注于研究和技术更新，先后通过了 EN ISO 9001: 2008 和 EN ISO 14001: 2015 认证。

最大的注塑厂位于意大利 Battipaglia 生产中心，那里有 25 台最小起重为 190 吨的压力机注塑机，每年可转换大约 40000 吨聚乙烯。

遵循欧洲标准，Jcoplastic 生产中心主要生产以下三种产品：

废物容器

农业用盒

工业用盒和托盘。

世界各国的主要城市选择 JCO 的产品用于其废物管理和工农业部门的私营公司，为 Jcoplastic 的优质技术、能力和经验做了证明。

Year of establishment 成立时间	1967	Contact person 联系人	Felicia D'Elia
Annual turnover (EUR) 年营业额	100,000,000 - 250,000,000	Phone number 电话	+390828392111
Number of employees 员工人数	250 - 499	Email 邮箱	export@jcoplastic.com
Website 网站	www.jcoplastic.com	Address 地址	Viale Spagna, Zona Industriale, Pattipaglia (SA) 84091 Italy 意大利
Business Registration Number 统一社会信用代码	IT12549920150		

LABIOTEST SRL



Full Profile (English) 完整资料 (英文)

Due to its twenty years of experience, Labiotest Srl is in a position to offer a wide range of solutions for air treatment and for the control of odors, chemical contaminants and dust. Labiotest starts with a complete study of the production site and a thorough analysis of the problem before designing, realizing and testing the equipment offered. Furthermore, the company guarantees assistance and post-sale maintenance. The reduction of odorigenous emissions can be ensured in two different ways:

- starting from the very source, by determining which processes cause emissions to optimize them and allow for a significant reduction of the impact on the environment, based on a "clean technology" concept;
- at the emission level, by analyzing the chemical and physical characteristics of the effluents, in order to find what can be best, from the management point of view and that of performances, as possible technological solutions ("end of pipes technologies").

Labiotech follows its customers at every step, from the moment the problem and criticalities as to be defined, up to the implementation of solutions until expected results can be evaluated. Labiotest knows that a good quality air is the result of careful analysis and tailor made solutions. We provided highly advanced technologies that may be built in easily. Our stronger points are our range of offers and a long experience, both factors allowing for effective actions in any condition whatsoever. Labiotest products are the result of strict experiments carried out with the help of internationally known organizations and institutions.

We would like to promote two different technologies for odour abatement i.e. osmogenic barrier using deodorizing products and high pressure systems and the dry chemical filtration through DKFil. The air filtration process is carried out by using static multiple layers and multiple reagents filtering bed ensuring an actual multiple stages dry scrubbing. The many adsorbing and/or filtering pre-activated and pre-impregnated materials offer a wide range of reactors, realized and designed right for the emissions to be treated.

Full Profile (Chinese) 完整资料 (中文)

Labiotech Srl 是一家提供一系列空气治理解决方案的公司，专注于臭气废气，化学和粉尘污染等治理，并有 20 年的相关领域经验。Labiotech 通过对于生产现场的全面调查，和对问题的彻底分析，进行设备的设计，实现和测试。另外，公司承诺设备售后的支持和维护。对于废气臭气的消除我们主要有两种方式：

-基于“清洁技术”概念，从源头入手，通过判定废气臭气产生的具体工艺流程来优化它，最大限度降低对环境的影响。

-从排废气排放入手，通过分析排放物的化学和物理属性，找出最佳切入点。基于管理的角度和性能尽可能提出最佳技术方案。（后期管道技术）

Labiotech 每一步都会根据客户需求来定制，从问题出现开始对其关键程度进行定位，到解决方案的落实，之后对预期结果的评级。Labiotech 明白好的空气质量是经过仔细地分析和专属的方案定制之后才能得到的。我们提供高效的技术使其更简单的建立运作。我们的优势在于广泛的应用领域和长期的经验积累，使其在任何条件下都能够得到有效的反响。Labiotech 的产品通过众多国际知名组织和科研机构严格的测试。

对于废气臭气的减轻消除，我们极力推荐我们两种不同的技术，通过除味产品，高压系统和 DKFil 化学干行过滤器进行。空气净化过程是基于静态多层结构滤纸和多种过滤试剂组合来确保多重过滤（干性）的。这些预激活和预浸的过滤材料能提供更广范围的气体排放净化。

Year of establishment 成立时间	1988	Contact person 联系人	Jacopo Luci
Annual turnover (EUR) 年营业额	2,000,000 - 5,000,000	Phone number 电话	+390432634449
Number of employees 员工人数	10 - 49	Email 邮箱	jacopo.luci@gruppoluci.it
Website 网站	www.gruppoluci.it	Address 地址	Via Pramollo, 6, Povoletto (UD) 33040 Italy 意大利
Business Registration Number 统一社会信用代码	IT01572930301		

MEGA SYSTEM SRL



POLLUTION CONTROL SYSTEMS

Full Profile (English) 完整资料 (英文)

Mega System (Italy) is an Italian company specialized in manufacturing of air pollution control systems since 1981.

All our instruments are based on the gravimetric method, so the official method, for the sampling of the particulate matter and the chemical pollutants in the workplace, in the environment and in the stack emissions.

APIS in particular represents the most advanced version of the automatic isokinetic samplers for stack emissions available in the market.

APIS automatically sets the correct isokinetic flowrate measuring in real time the differential pressure and temperature in stack, it also evaluate flue gas velocity and flowrates according to the most diffused European and US EPA sampling methods.

Our sampler is equipped with a 10" colours touch screen display for easy programming, USB to download directly on a standard pen drive, pump up to 6 m3/h and anti-shock case for easy transport.

As requested by EN 16911-1 there are three independent pressure sensors.

It is also possible save the different samplings in the internal database of clients and stacks, in order to recall very fast the stored data.

APIS is just a part of X1 series instruments dedicated to the isokinetic sampling in stack emissions, of course we have the complete range of products to perform samplings of dusts, dioxins, furans, PAH, metals, acids, VOC.

Full Profile (Chinese) 完整资料 (中文)

Mega System 自 1981 年起专门从事空气污染监控设备的生产制造业务。

我们所有的仪器均基于重量分析法，用于对工作场所，室外和烟囱排放物中的颗粒物和化学污染物的取样。

APIS 尤其代表了市场上可用的烟囱排放自动等速采样器的最先进版本。

APIS 自动设置正确的等速流量测量，实时测量烟囱中的压差和温度，并根据欧洲和美国 EPA 采样方法评估烟气速度和流量。

我们的采样器配备了 10 英寸彩色触摸屏显示器，方便编程，USB 可直接在标准笔式驱动器上下载，泵速可达 6 立方米/小时，防震箱便于运输。

根据 EN 16911-1 的要求，有三个独立的压力传感器。

也可以将不同的采样保存在客户端和内部数据库中，以便快速调用存储的数据。

APIS 只是 X1 系列仪器的一部分，专门用于烟囱排放的等速采样，当然，我们拥有完整的产品系列来进行粉尘，二恶英，呋喃，多环芳烃，金属，酸，挥发性有机化合物的取样。

Year of establishment 成立时间	1981	Contact person 联系人	Andrea Ceriotti
Annual turnover (EUR) 年营业额	2,000,000 - 5,000,000	Phone number 电话	+390290361622
Number of employees 员工人数	10 - 49	Email 邮箱	aceriotti@megasystemsrl.com
Website 网站	www.megasystemsrl.com	Address 地址	Via Don Fracassi, 41, Bareggio (MI)
Business Registration Number 统一社会信用代码	IT11253570151		20010 Italy 意大利

MONTELLO SPA



Full Profile (English) 完整资料 (英文)

Montello S.p.A. is located in the homonymous municipality in Bergamo city (in the north of Italy) in an industrial area of around 450,000 m², 120,000 of which are indoors, and has a staff of 650. It is ISO 9001, ISO 14001, ISO 18001 and ISO 50001 certified and operates in the two following business activities:

Treatment, recovery and recycling of organic waste, including the organic fraction of municipal solid waste (MSW) from separate waste collection, with a treatment capacity of about 600,000 tons/year of waste.

The adopted process provides a first phase of anaerobic treatment that generates biogas producing:

- electricity and heat from renewable sources through cogeneration engines;
- biomethane destined for automotive through an upgrading process, with recovery of carbon dioxide (CO₂) to be reused in production cycles including food;
- and an aerobic composting phase of digested matter's with production of high quality organic fertilizer.

In summary, 90% of organic waste is recovered and recycled. The remaining 10%, unwanted in these processes, is recovered as Secondary Solid Fuel (SSF) for cement plants.

Sorting, recovery and recycling of 200,000 tons/year of post-consumer plastic packaging waste from separate waste collection. The integrated process first separates the different kinds of plastic by type of polymer (PET bottles, HDPE bottles, mixed polyolefin containers,...) and color (colorless, blue and mixed colored PET) recovering them in secondary raw materials in the form of PET flakes, HDPE granules, LDPE granules and MIXED POLYOLEFINIC granules, as well as in manufactured products such as dimpled sheet GEOMONT®, used in construction industry.

In summary, 75% of treated plastic waste is recovered and recycled in secondary raw materials and/or finished products. The remaining 25%, unsuitable for recycling, is recovered in the production of Secondary Solid Fuels (SSF) for cement plants.

In summary, it is a recovering and recycling with an "around zero" residual waste.

The environmental benefits achieved by both activities can be quantified in terms of 390,000 tons equivalent of CO₂ saved.

Full Profile (Chinese) 完整资料 (中文)

Montello S.p.A. 位于意大利北部的贝加莫市，工业面积约 45 万平方米，其中室内面积 12 万，有员工 650 名。有 ISO 9001, ISO 14001, ISO 18001 和 ISO 50001 认证，并在以下两项业务活动中运作：

1. 有机废物的处理、回收及循环再造，包括废物收集的都市固体废物的有机部分，处理能力约为 60 万吨/年。

所采用的过程提供了产生沼气的厌氧处理的第一阶段：

- 可再生能源的电力和热能通过热电联产发动机；
- 通过升级过程，将生物柴油运往汽车，回收二氧化碳(CO₂)，在包括食品在内的生产周期中重复使用；

并以优质有机肥料的生产为原料，进行了好氧堆肥阶段。

总之，90%的有机废物被回收再利用。剩余的 10%在这些过程中不需要，作为固体燃料(SSF)被回收用于水泥厂。

2. 回收和回收 20 万吨/年的后消费塑料包装废料，从单独的废物收集。集成过程首先区分不同种类的塑料类型的聚合物(PET 瓶,HDPE 瓶,聚烯烃混合容器、...)和颜色(无色、蓝色和混合颜色的 PET)恢复他们在二级原材料的形式 PET 薄片,HDPE 颗粒,低密度聚乙烯颗粒和混合 POLYOLEFINIC 颗粒,以及生产的产品,如带酒窝的表 GEOMONT®,用于建筑业。

综上所述，75%的处理过的塑料废物在二次原料和/或成品中回收和回收。剩余的 25%不适合回收利用，在用于水泥厂的二次固体燃料(SSF)的生产中回收。

综上所述，这是一个回收和回收利用“零”剩余废物。

这两项活动所取得的环境效益可以以相当于节省的 39 万吨当量的方式加以量化。

Year of establishment 成立时间	1989
Annual turnover (EUR) 年营业额	75,000,000 - 100,000,000
Number of employees 员工人数	100 - 249
Website 网站	www.montello-spa.it
Business Registration Number 统一社会信用代码	IT01078620166

Contact person 联系人	Laura Musso
Phone number 电话	+39035689111
Email 邮箱	segreteria@montello-spa.it
Address 地址	Via Fabio Filzi, 7, Montello (BG) 24060 Italy 意大利

NERON PUMPS SRL



Full Profile (English) 完整资料 (英文)

The NERON units are high pressure washers, hydraulic driven, suitable for any mobile application. Very small, compact and versatile unit, easy to install, powerful is the unique pump worldwide.

Because of its extremely small dimensions and the fact that it is easy to handle and connect, the Neròn pump is particularly suitable to be installed on sweepers, equipped vans, tractors, mini excavators, dozers, concrete trucks, concrete pumps, roadwork machines, overhead platforms, fire fighting vehicles, vessels and fishing boats for any kind of cleaning job in high pressure, sand blasting, hydro demolition, firefighting etc.

The fluid to pump (water, salted water, glycol, chemical products etc.) circulates in the front section of the pump; it can be sucked from a tank or from any distribution network, enters from the port Q2 and, pushed by the pistons, goes out from the port P2.

Because of its extremely small dimensions and the fact that it is easy to handle and connect, this series is particularly suitable to be installed on sweepers, equipped vans, tractors, mini excavators, dozers, concrete trucks, concrete pumps, roadwork machines, overhead platforms, fire fighting vehicles, vessels and fishing boats for any kind of cleaning job in high pressure, sand blasting, hydro demolition, firefighting etc.

The construction materials, all absolutely corrosion resistant, and the special seals make these pumps suitable for use also with hot water (up to 160 °F), with salted water and in presence of aggressive chemical agents.

All the pumps are equipped with a series of safety valves that guarantee an easy, riskless and extremely reliable use.

The power of the oleodynamic installation is transformed, with a continuous flow, substantially with no pulsations, into an equivalent power on the circuit of the fluid to pump.

Depending on the models it is possible to have different ratios between the inlet/outlet pressure and flow, increasing one or the other according to the working needs.

This series of pumps in the two versions HWB (up to 3.700 psi for professional uses) and HPP (up to 6.650 psi for heavy duty applications) solves all the problems related to the technology of the high pressure water.

Full Profile (Chinese) 完整资料 (中文)

NERON 产品为高压清洗机，经水力驱动，适合于任何移动式应用。精简小巧、强大多用途且安装简单使其成为了世界上最独特的泵机产品之一。

极小的尺寸和简便的操作连接使得 Neròn 泵机特别适合安装在扫地机、轻型小巴、拖车、迷你挖掘机、推土机、混凝土车、混凝土泵、道路施工设备、架空平台、消防车、船舶与渔船等工具上以用于任何类型的高压清洗、喷砂、水压冲击、消防等用途。

流入泵机（水、盐水、乙二醇、化学品等）内的液体在泵机前端循环；可以从槽罐中抽取或从任何分配管网中抽取，然后从 Q2 口进入，经活塞推送从 P2 口送出。

由于尺寸十分小巧而且操作连接简单，该系列产品尤其适合安装在扫地机、轻型小巴、拖车、迷你挖掘机、推土机、混凝土车、混凝土泵、道路施工设备、架空平台、消防车、船舶与渔船等工具上以用于任何类型的高压清洗、喷砂、水压冲击、消防等用途。

所有结构材料均采用绝对防腐技术，特殊密封处理让泵机适合在热水（最高 160 °F）、盐水以及腐蚀性化学品环境内工作使用。

所有泵机均装备了一系列安全阀，可保证简单无风险且极端可靠的运行使用。

油压动力经连续液流转化后消除脉冲性影响，从而确保泵机内流体循环的均匀动力。

根据型号不同，输入/输出压力和流量会有不同的比值，可根据运行需要提供其中一项或其他

项。

该系列泵机产品共分两种版本：HWB（最高 3.700 psi 压强的专业应用）和 HPP（最高 6.650 压强的重型应用），完全能够解决高压水方面的所有技术相关问题。

Year of establishment 成立时间	2014	Contact person 联系人	Annamaria Bertocchi
Annual turnover (EUR) 年营业额	1,000,000 - 2,000,000	Phone number 电话	+390355290389
Number of employees 员工人数	0 - 9	Email 邮箱	neronanna@neron.it
Website 网站	www.neron.it	Address 地址	Via Locatelli 13, Ranica 24020 Italy 意大利
Business Registration Number 统一社会信用代码	IT04024950166		

NGV GAS SRL



Full Profile (English) 完整资料 (英文)

NGV Motori and its sister company NGV GAS is a global leader in developing technologies which enable diesel engines to run on clean burning natural gas.

They have a very successful track record since 1979 of developing, manufacturing and supplying heavy-duty Natural Gas engines for international brands such as: Cummins, Mack, Wesport, Detroit Diesel, Iveco, Volvo, Hino, Hyunday, Isuzu, Mercedes Benz, Man. With over 30 years of experience in the field of conversion of Natural Gas engines, NGV Group since then has supplied over 1 million conversion kits worldwide and always upgraded its technology.

We are now in China to cooperate with our official Licensee to support a better environment and to offer a sustainable alternative to the Public and Private Road Transportation

Full Profile (Chinese) 完整资料 (中文)

NGV Motori 与其姐妹公司 NGV GAS 在以柴油引擎运作天然气的技术领域发展中具有国际领先地位。

自 1979 年他们为国际知名品牌: Cummins, Mack, Wesport, Detroit Diesel, Iveco, Volvo, Hino, HYUNDAI, Isuzu, Mercedes Benz, Man 研究, 生产和供应重型天然气发动机。经过 30 年以上的天然气引擎转换领域的相关经验, NGV 集团全球总供应超过 100 万成套设备, 并保持技术领先地位。

现在我们落地中国, 通过我们的专利技术去支持更好的环境要求, 为公共及私人交通提供更好的可持续替代方案

Year of establishment 成立时间	2012	Contact person 联系人	Luca Iori
Annual turnover (EUR) 年营业额	10,000,000 - 25,000,000	Phone number 电话	+390522506153
Number of employees 员工人数	10 - 49	Email 邮箱	info@ngvgas.com
Website 网站	www.ngvgas.com	Address 地址	Via Amundsen, 1, Reggio Emilia 42122 Italy 意大利
Business Registration Number 统一社会信用代码	IT02508930357		

NUVAP SRL



Full Profile (English) 完整资料 (英文)

Nuvap is the first company worldwide specializing in the production of devices for simultaneously monitoring 26 pollution and environmental parameters. Nuvap has developed an hardware, software, algorithms solutions worldwide patented (PATENT TITLE: "A device and method for dynamically measuring an environmental quality factor".- n WO2014/073010 PCT/IT2013/000068)

Nuvap wants to organize, with a simple and convenient service, the resolution of all problems discovered through its devices, in order to protect the health of people inside their homes and in their professional / industrial environments.

N1 and allNuvap® systems can be used for both discrete and continuous monitoring, alternative but equally valid approaches. Under the continuous monitoring approach, N1 will silently monitor the same set of pollution sources, without needing to be reminded, and here by ensuring your safety. With its precision diagnostics, N1 may be used to locate optimal domestic environments such as a healthier position for a bed within a home or a healthier location in which to buy or rent a property.

Nx Series - A range of innovative multi-sensors device, to be deployed in indoor locations, in order to monitor 26 pollutants and enable different types of services. Data are visualised by app and by web.

Nuvap monitors:

High frequency electromagnetic fields - Low frequency electromagnetic fields - Radon gas - Ionizing radiation - WiFi - Carbon monoxide - CO2 - Formaldehyde - Methane - Smoke / fire - H2 - LPG - Alcohol - NH3 - Ethanol - Toluene - Particulate matter - Water quality chlorine - Hardness - alkalinity - pH - Nitrite - Nitrate - Noise pollution - Temperature - Humidity

My.Nuvap - A multi-tenant web platform able to generate reports, dashboard and notifications about monitored parameters. My.Nuvap Platform can enable certified partners to manage devices, download data and design custom services.

Nuvap offers:

A monitoring solution that allows you to understand the level of harmful pollution in your living environment

A support service for solving the pollution problem

A constantly growing database of the state of domestic pollution.

Full Profile (Chinese) 完整资料 (中文)

Nuvap 的专业产品可同步监测 26 种污染与环境参数，这在全球范围内尚属首家。Nuvap 所研发的硬件、软件和算法解决方案已取得全世界专利认可（专利名称：“动态测定环境质量因素的设备与方法”，专利号 WO2014/073010 PCT/IT2013/000068）

Nuvap 希望通过简单便捷的服务来组织针对设备所发现的全部问题解决手段，从而保护人们在家庭、工作/工业环境中的人身健康。

N1 和 allNuvap®系统可用于分散式和连续式的监测，可作为同等有效的替代监测手段。在连续监测下，N1 将安静地对各种污染源进行监测而无需任何提示，确保您的人身安全。在精准诊断下，N1 可用于定位最佳的室内环境，如卧床上更加健康的位置，或者何处购买或租赁健康类产品。

Nx 系列 – 一系列创新型多传感器设备，可部署于室内以监测 26 种污染物并启用不同类型的服务。通过 app 应用和网页可以查看数据。

Nuvap 设备可监测：

高频电磁场 - 低频电磁场 - 氦气 - 离子辐射 - 无线 - 一氧化碳 (CO) - 二氧化碳 - 甲醛 - 甲烷 (CH4) - 烟雾/起火 - 氢 - 液化气 - 酒精 - NH3 氨 - 乙醇 - 甲苯 - 颗粒物 - 水质含氯量 - 硬度 - 碱性 - pH 值 - 亚硝酸盐 - 硝酸盐 - 噪音污染 - 温度 - 湿度

My.Nuvap – 多用户网站平台，可生成监测参数的报告、数据表和通知。My.Nuvap 平台可以让认证合作方管理设备、下载数据并设计定制服务。

Nuvap 为您带来：
 能够让您理解生活环境中污染危害水平的监测解决方案
 解决污染问题的支持服务
 家庭污染状态持续成长的信息数据库。

Year of establishment 成立时间	2014	Contact person 联系人	Marco Magnarosa
Annual turnover (EUR) 年营业额	0 - 1,000,000	Phone number 电话	+390507373018
Number of employees 员工人数	0 - 9	Email 邮箱	marcomagnarosa@nuvap.com
Website 网站	www.nuvap.com	Address 地址	Vai Giuntini, 13, Cascina (PI) 56023 Italy 意大利
Business Registration Number 统一社会信用代码	IT02137180507		

OWAC SRL



Full Profile (English) 完整资料 (英文)

APABILITY – PROFICIENCY – CREATIVITY. OWAC is an engineering company composed of a team of skilled professionals with a long expertise in the waste-to-energy and renewables sectors. Having achieved a solid international experience through projects around the globe, OWAC can be the ideal advisor for those entrepreneurs who intend to strengthen their business in the field of environmental protection. We can both guarantee that the technologies most appropriate to each specific project are applied and develop new solutions thanks to many partnerships with universities and the National Research Council.

The Company core business is actually based on the research of the best technologies and most innovative solutions to many kinds of environmental matters, contributing to improve life quality and safety. Just like a puzzle, every working phases are jointly composed to provide the final service with high quality and efficiency.

OWAC main activities are: design and construction of industrial facilities; provide high advisory services; design and manage industrial automation systems, research new industrial-applied technologies.

In recent years, OWAC has been developing projects concerning: M.S.W. mechanical and biological treatment facilities; Composting and Anaerobic Digestion plants; Both hazardous and non-hazardous waste landfills; Contaminated soil treatment facilities; Remediation of disused industrial sites; Sewage treatment plants; Waste to energy facilities, and so on.

Since May 2015 OWAC has also been developing some foreign activities, particularly in the Asian countries, with the purposes of promoting environmental protection policies; supporting Asian entrepreneurs for the developing of their "green business"; supporting local companies for the personnel training in the waste-to-energy field; representing the Sapienza University for the promotion of scientific research applied to industrial projects in China, and so on.

OWAC RESEARCH, a new start-up company of OWAC Group, has also started many testing activities, together with the National Research Council, promoting new technologies applied to enzyme usage in anaerobic digestion for organic waste and biomass treatment.

Full Profile (Chinese) 完整资料 (中文)

OWAC 是一家工程公司，具有熟练的专业团队和长期从事废弃物能源回收的工作经验。OWAC 承接过各种工厂及其建设项目，业务地点遍及全球，有坚实的国际经验基础，对那些想在环境保护领域实现多样化或加强业务的企业来说，OWAC 可充当理想的顾问角色。得益于我们与高校及国家研究委员会建立的合作关系，我们既可以保证针对每一个具体项目采用最恰当的技术，也可以开发新的解决方案。

公司的核心业务实际上是基于对多种环境问题的最佳技术和最优创新解决方案的研究，有助于提高生活质量和安全。

OWAC 的主营业务有:工业设施的设计与建设、提供咨询服务、自动化系统的设计和管理、研究新的工业应用技术。

近年来，OWAC 致力于项目开发，包括:M.S.W.机械和生物处理设施;堆肥和厌氧消化设备;危险及非危险废物堆填区;土壤污染处理设施;废弃工业用地的整治;污水处理厂;废物转化能源设施，等等。

自 2015 年 5 月以来，OWAC 在亚洲国家组织发起了一些国际活动，旨在促进环境保护政策，支持亚洲企业发展绿色产业，支持本地公司在废物转化能源领域进行人员培训，代表 Sapienza 大学促进科学研究应用于中国的工业项目。

OWAC 研究是 OWAC 集团旗下的一个新创公司，与国家研究委员会共同发起了许多测试活动，旨在推广应用于厌氧消化有机废物和生物质处理的酶应用的新技术。

Year of establishment	2008
成立时间	
Annual turnover (EUR)	2,000,000 - 5,000,000
年营业额	
Number of employees	50 - 99
员工人数	
Website	www.owac.it
网站	

Business Registration Number	IT05725900822
统一社会信用代码	

Contact person	Liborio Ardizzone
联系人	
Phone number	+39091303243
电话	
Email	l.ardizzone@owac.it
邮箱	
Address	Via Resuttana, 360, Palermo
地址	90146 Italy 意大利

PCF ELETTRONICA SRL



Full Profile (English) 完整资料 (英文)

PCF Elettronica Srl, since 1981, is a reliable Italian OEM manufacturer of FID/PID based equipment. His equipment may be used in stationary installations or as portable instruments for monitoring many types of Hydrocarbon species. The dimension of the Company as well as his mentality, fully Customer oriented, make PCF the ideal partner for special applications and/or special version of the equipment.

Full Profile (Chinese) 完整资料 (中文)

PCF Elettronica Srl 自 1981 年成立以来，一直是一家可靠的意大利 FID / PID 设备 OEM 制造商。设备可用于固定安装或作为监测多种类型烃类的便携式仪器。公司完全以客户为导向，因此是特殊应用和/或特殊版本设备的理想设计者。

Year of establishment 成立时间	1981	Contact person 联系人	Giovanni Longaretti
Annual turnover (EUR) 年营业额	1,000,000 - 2,000,000	Phone number 电话	+39035594918
Number of employees 员工人数	10 - 49	Email 邮箱	amministrazione@pcfelettronica.it
Website 网站	www.pcfelettronica.it	Address 地址	V.le Italia, 7/A - 7/B, Levate (BG) 24040 Italy 意大利
Business Registration Number 统一社会信用代码	IT02577270264		

PETROLTECNICA SPA



Full Profile (English) 完整资料 (英文)

Petroltecnica SPA (Ptt) is leader in Italy as supplier of environmental services for Oil and Gas Industry (O&G). Operate with 3 main business units: 1- Soil and Groundwater remediation; 2- Tank Cleaning; - 3- Waste treatment and management. Ptt has develop his own property technologies to operate in safe condition all environmental activities in gas stations and petrochemical plants. Our team of Geologist and Environmental Engineer is able to project and execute the complete reclaim of contaminated site and brownfields. Our treatment plants are able to Clean up contaminated soil and groundwater from organic and inorganic pollutant.

Our clean up technologies are able to improve biodegradation in groundwater. Our technologies for tank cleaning are able to clean up underground storage tank using remote vehicle and testing the integrity of the tank. We develop a complete cycle of soil treatment for the complete reuse of soil.

All our technologies are developed to reduce the amount of energy and raw material during our clean up activities. Furthermore, we develop our tank cleaning technologies to avoid the entry of people in confined spaces (No Man Entry) to operate at the safest level as possible in dangerous environment.

Full Profile (Chinese) 完整资料 (中文)

Petroltecnica SPA (Ptt) 是意大利主要的油气产业 (O&G) 环境服务的供应商之一。公司旗下共有 3 大业务板块: 1- 水土保持与补救; 2 - 槽罐清洁; 3- 废弃物处理与管理。Ptt 开发了自有专利式技术以确保加油站、石化炼油厂等环境安全。我们的地理专家和环境工程师团队能够对污染地点和灰色地带进行全面完整的回收改造。我们的处理厂能够清洁受污土壤和地下水并清理掉其中的有机/无机污染物。

我们的清理技术能够改善地下水的生物降解能力。我们的槽罐清洁技术则可利用远程设备来清洁底下埋藏的储存槽罐并对槽罐完整性进行测试。我们还开发了完整的土壤处理技术以便对土壤进行充分彻底的二次利用。

我们所有技术都着眼于清洁活动中的能耗降低和原料消耗减少。此外, 我们开发的槽罐清洁技术避免人员亲自进入有限空间 (无人作业) 区域开展作业, 确保了危险环境内的最高安全水平。

Year of establishment 成立时间	1950	Contact person 联系人	Virgilio Pagliarani
Annual turnover (EUR) 年营业额	50,000,000 - 75,000,000	Phone number 电话	+390541755810
Number of employees 员工人数	250 - 499	Email 邮箱	virgilio.pagliarani@petroltecnica.it
Website 网站	www.petroltecnica.it	Address 地址	Via Rovereta, 32, Rimini 47853 Italy 意大利
Business Registration Number 统一社会信用代码	IT01508280409		

PIEMONTE AGENCY



Full Profile (English) 完整资料 (英文)

Meet Piemonte at Hall E2 . Inside the Italian Pavillon you can come and talk with the Piemonte Agency, the first Italian regional agency dedicated to attracting foreign investment and increasing the presence of local companies on international markets. At IE Expo Shanghai a special focus will be given to our top-suppliers, focusing on quality, sustainability and integrated solutions in the fields of environmental monitoring, water, waste and recycling.

The Piemonte participation to IE Expo Shanghai is organised within "Piemonte Cleantech", a project promoted by Regione Piemonte, financed by ERDF - European Regional Development Fund and managed by Piemonte Agency, the entry point offered by Regione Piemonte to get in touch, make business and invest in Piemonte-Italy.

Full Profile (Chinese) 完整资料 (中文)

欢迎莅临意大利皮埃蒙特展馆，与专注于质量，可持续发展和集成解决方案顶级供应商会面，向您提供水，废物回收解决方案及产品。皮埃蒙特展馆是由意大利第一家专注于国际化发展的皮埃蒙特代理公司筹办，旨在吸引外资，增强当地企业的存在感及其在国际市场上的竞争力，针对国际贸易领域的重要主题对本地和外国管理人员及官员进行培训。

Year of establishment 成立时间	2006	Contact person 联系人	Riccardo Casaburi
Annual turnover (EUR) 年营业额	2,000,000 - 5,000,000	Phone number 电话	+390116700566
Number of employees 员工人数	10 - 49	Email 邮箱	expert.cleantech@centroestero.org
Website 网站	www.centroestero.org	Address 地址	corso Regio Parco, 27, Turin 10152 Italy 意大利
Business Registration Number 统一社会信用代码	IT09489220013		

ROVATTI A. & FIGLI POMPE SPA

rovatti pompe

Full Profile (English) 完整资料 (英文)

Since 1952 Rovatti Pompe, owned by Rovatti family, manufactures and develops centrifugal pumps for submersible and surface installations. Over the years the Company has diversified its activity from the production of pumps for agricultural applications to include pumps for industry, drainage, and sewage. Rovatti has always been heavily engaged in an active programme of research and development with particular attention to technological innovations, manufacturing processes and to the protection of the environment, contributing to a better quality of life. All Rovatti pumps are manufactured according to the highest international standards to successfully satisfy many application areas: water supply and water treatment, agriculture and irrigation, fire-fighting, conditioning and washing systems. Technologically innovative products that provide maximum performance and high efficiency with minimum energy consumption, able to provide the highest security level, maintenance-free and ease of use conditions

Full Profile (Chinese) 完整资料 (中文)

Rovatti Pompe 于 1952 年，由 Rovatti 家族成立。是专注于潜油离心泵的研制，生产和表面作业安装的公司。

经过多年的发展，我公司从专注于农业应用的水泵生产衍生到对工业，生活排水和污水系统等多领域的水泵生产。Rovatti 致力于技术创新和生产过程的研究和开放，以保护环境和创建更好的生活质量为目标。

Rovatti 生产的离心泵全部基于国际最高的标准，满足于多个领域：供水，水处理，农业灌溉，消防，空调和冲洗系统。我们的创新技术产品可以在最低能耗下展现最佳效果，它高安全，低维护并且易操作。

Year of establishment 成立时间	1952	Contact person 联系人	Matteo Paiato
Annual turnover (EUR) 年营业额	10,000,000 - 25,000,000	Phone number 电话	+390522665000
Number of employees 员工人数	100 - 249	Email 邮箱	m.paiato@rovatti.cn
Website 网站	www.rovatti.cn	Address 地址	Via Trento, 22/24, Fabbrico (RE) 42042 Italy 意大利
Business Registration Number 统一社会信用代码	IT00146150354		

SELTEK SRL - STOKKERMILL RECYCLING MACHINERY



Full Profile (English) 完整资料 (英文)

Stokkermill designs and produces machinery for supporting the recycling industry to get highest performances and maximise economic benefits. Stokkermill has adopted a flexible profile very integrated with the local territory: the North East of Italy well known for being one of most European technological areas.

Stokkermill drives and coordinates a cluster of excellent production centers able to carry out the entire production chain in compliance with the directives and strategies of the head office: from design, laboratory tests, research and development up to final production.

Stokkermill has, in this way, created a real "smart" technological factory: light, dynamic, sustainable, integrated with the territory, advanced and innovative. This efficient industrial model is confirmed in the consulting and after sale service. Thanks to a widespread network of collaborators on five continents Stokkermill is always in close contact with the end customer by supporting investment decisions, market analysis, operations and development prospects after sale.

Full Profile (Chinese) 完整资料 (中文)

Stokkermill 设计和生产用于支持回收行业的机器，以获得最高性能及最大的经济效益。Stokkermill 采用了与当地区域相结合的灵活配置：意大利东北部以欧洲最著名的技术区域之一而闻名。

Stokkermill 推动并协调了一批优秀的生产中心，能够按照总公司的指示和战略执行整个生产链：从设计、实验室测试、研发到最终生产。

Stokkermill 以这种方式创建了一个真正的“智能”技术工厂：轻便、动态、可持续、与区域相结合，先进及创新。这种高效的工业模式在咨询和售后服务中得以确认。

得益于遍布五大洲的广泛合作伙伴网络，Stokkermill 通过支持投资决策、市场分析、运营和售后发展前景，始终与最终客户保持紧密联系。

Year of establishment 成立时间	2004	Contact person 联系人	Piergiorgio Tedeschi
Annual turnover (EUR) 年营业额	0 - 1,000,000	Phone number 电话	+393288272193
Number of employees 员工人数	0 - 9	Email 邮箱	info@stokkermill.com
Website 网站	www.stokkermill.com	Address 地址	Via Aquileia, 22/4, Udine 33100 Italy 意大利
Business Registration Number 统一社会信用代码	IT02360630301		

SYSTEA SPA



Full Profile (English) 完整资料 (英文)

SYSTEA (SYStems TEchnology Advance) S.p.A is an Italian company with the aim to develop analytical instruments for laboratory, environmental and agro-industrial applications. The company commitment looks towards study, development, production and marketing of analytical solutions for environmental, agricultural and food/beverage fields, providing a complete start-up, management and maintenance service to the Customer. The actual products' lines cover most of the market needs for automatic analysis of chemical compounds in water. SYSTEA is commercially active in P.R. China from 2002 providing on-line analyzers for industrial waste water outlet and environmental monitoring control, in-situ probes to measure nutrients and other chemical compounds in surface and sea water and routine laboratory analyzers for industrial and environmental analysis of chemical compounds in any kind of water.

Our Micromac on-line analyzers are widely used in China for Waste Water Treatment Plants effluents control and for water environmental monitoring purposes; more than 60 chemical parameters are already available and NH₃, COD, Total P and Total N methods are certified by CEP too.

WIZ in-situ nutrient probes are the leading products in China to measure nutrient in lakes and coastal sea water.

SYSTEA recently launched in the market an innovative line of robotic multiparametric on-line analyzers named Easychem on-line, that would have to be best applied in drinking water control networks for Smart Cities applications and in industrial area remediation projects. A specific model for Early Warning of acute toxicity using luminescent bacteria as sensitive living organisms is available too. At IFAT and IE Expo exhibitions the new analyzer named Easychem E.coli is going to be launched too, to perform on-line unattended measurements of E.coli in drinking, groundwater and surface water, completely automating the MPN method commonly used in any laboratory worldwide.

Full Profile (Chinese) 完整资料 (中文)

SYSTEA (SYStems TEchnology Advance) S.p.A 是一家专注于为实验室、环境和农工业方向，开发分析仪器的意大利公司。公司致力于研究，开发，生产和销售，为环境、农业和食品/饮料领域提供分析解决方案，为客户提供完整的启动，管理和维护服务。就水中化学物自动分析领域而言，该生产线遍布了大部分的市场需求。SYSTEA 自 2002 年开始在中国发展，提供工业废水和环境监测的在线分析，实地钻孔来测量陆地、海水中的营养物和化学成分，通过实验室科研分析人员为其化学混合物进行工业和环境方面的分析。

Micromac 在线分析仪在中国得到了广泛的应用，专为污水处理厂进行污染源的控制和水环境的监测。目前超过 60 多种化学参数可以被监测出来，NH₃, COD, Total P 和 Total N 方法也已通过 CEP 认证。

WIZ 原位营养物监测探头目前在中国属于领先产品，用于检测海河湖泊中的营养物。

SYSTEA 最近刚推出市场，是由一系列创新机器人组成的多参数在线分析仪，名为 Easychem on-line (Easychem 在线) 分析仪，当该分析仪应用于智能城市饮用水管网，和工业园的修复项目中时便可以发挥其最大的效果。而通过使用发光细菌作为敏感生物体来进行毒性早期预警的模型也同样适用。在 IFAT 和 IE Expo 展会上，新型分析仪 Easychem E.coli 也即将推出，用于对饮用水，地下水和地表水中的大肠杆菌进行在线测量，使全世界的任何实验室实现 MPN 方法。

Year of establishment 成立时间	1988	Contact person 联系人	Jiamei Lin
Annual turnover (EUR) 年营业额	50,000,000 - 75,000,000	Phone number 电话	+390775776058
Number of employees 员工人数	10 - 49	Email 邮箱	jiamei.lin@systea.it
Website 网站	www.systea.it	Address 地址	Via Paduni, 2A, Anagni 03012 Italy 意大利
Business Registration Number 统一社会信用代码	IT02081481000		

TREVI SPA



Full Profile (English) 完整资料 (英文)

Established in Cesena in 1957, Trevi is a company specialized in ground engineering (special foundation, tunnel excavation, dams and recovery of highly contaminated sites) and is part of the Trevi Group. The Group has currently 44 operating companies in 32 countries with 55 business units, more than 7.000 employees and a global turnover that exceeds 1 bln €. Relying on a deep and worldwide experienced engineering know-how, Trevi can provide to the client multiple solutions throughout the whole investigation and decision making process, for the rehabilitation and clean-up of contaminated site tailored on the specific site needs and features.

To do so, Trevi can use a wide range of patented and innovative technologies specialized in contaminated site confinement. Among them, Plastic slurry walls, Sheet Piles, Secant Piles, cut-off walls or bottom plugs by high pressure injection treatment (Jet Grouting), in-situ soil mechanical mixing (DMM Deep Mixing Methods) or by injection of sealing mixtures, also sub-horizontal drilling directed underneath the soil to be treated (Trevi Directional Drilling Technology, TDDT®) and Pneumatic Flow Mixing.

The combination of engineering competencies and high quality technologies makes Trevi a reliable partner able to perform successfully in extremely challenging works. In fact our solutions reduce drastically not just the contamination of the area but, as added value, also the risk of contamination of the bordering area. In order to provide the best solutions in compliance with the environmental local needs we are keen to evaluate different types of collaboration such as partnerships and Joint Ventures to cooperate in specific environmental projects. Furthermore, considering that Trevi Group has local branches in China, Trevi is ready to operate in the country.

Full Profile (Chinese) 完整资料 (中文)

Trevi 于 1957 年在切塞纳成立，是一家专门从事地面工程（特殊基础，隧道开挖，大坝和高度污染场地回收）的公司，从属于特雷维集团。集团目前在 32 个国家拥有 44 家运营公司及 55 个业务部门，员工超过 7000 人，全球营业额超过 10 亿欧元。凭借深厚且全球经验丰富的工程技术，Trevi 可以在整个调查和决策过程中为客户提供多种解决方案，根据特定场地的需求和特点为受污染场地进行修复和清理。

为此，Trevi 使用各种专用于污染场地限制的专利和创新技术。其中，通过高压注入处理（喷射灌浆），原位土壤机械混合（DMM 深度混合方法）或通过注入密封混合物进行塑料浆墙，板桩，割线桩，在土壤下面进行水平钻孔 (Trevi 定向钻井技术，TDDT) 和气动流动混合。

工程能力和高质量技术的结合使 Trevi 成为一个可靠的合作伙伴，能够成功完成极具挑战性的工作。事实上，我们的解决方案不仅大大减少了该地区的污染，而且还降低了周边地区污染的风险。为了提供符合当地环境需求的最佳解决方案，我们渴望评估不同模式的合作，例如合作伙伴和合资企业，在具体的环境项目中进行合作。此外，考虑到特雷维集团在中国有分支机构，特雷维已经准备好在中国开展业务。

Year of establishment 成立时间	1957	Contact person 联系人	Giovanni Preda
Annual turnover (EUR) 年营业额	100,000,000 - 250,000,000	Phone number 电话	+390547319579
Number of employees 员工人数	250 - 499	Email 邮箱	gpreda@trevispa.com
Website 网站	www.trevispa.com	Address 地址	Via Dismano, 5819, Cesena (FC) 47522 Italy 意大利
Business Registration Number 统一社会信用代码	IT00002890408		

VOMM SPA



Full Profile (English) 完整资料 (英文)

VOMM Impianti e Processi Spa, is the Italian company specialized in design and manufacturing of continuous plant for thermal treatment of sludge and waste: municipal waste water sludge (drying and incineration) , waste liquids concentration, organic fraction of urban waste valorization, hazardous hospital waste sterilization, polluted soil remediation, valorization of any type of wet waste (organic/inorganic) for municipal or private clients. VOMM turbo technology is the most used technology worldwide in the main cities to dry municipal sludge.

Full Profile (Chinese) 完整资料 (中文)

VOMM S.p.A.是一家专业从事设计和制造可连续热处理污泥和固废工艺设备的意大利公司，可处理范围包含：污水污泥干化和焚烧、废液浓缩、城市垃圾稳定处理、医疗垃圾灭菌，污染土壤修复，以及任何有机或无机类型湿垃圾的处理，以及为客户或政府提供个性化服务。VOMM 涡轮薄层干化设备，已经广泛用于世界各地主要城市的市政污泥干化和最终处理。

Year of establishment 成立时间	1969	Contact person 联系人	Roberto De Angelis
Annual turnover (EUR) 年营业额	50,000,000 - 75,000,000	Phone number 电话	+8602156780829
Number of employees 员工人数	100 - 249	Email 邮箱	roberto@rdeangelis.com
Website 网站	www.vomm.it	Address 地址	Via Curiel, 252, Rozzano (MI) 20089 Italy 意大利
Business Registration Number 统一社会信用代码	IT04356840159		

