



TECHNAI

直接驱动

# 面向中国市场的合作

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以其设计与提供直接驱动技术解决方案的丰富经验为后盾，Technai Team 已开发出了为中国市场设计的动力头及工作台产品。



**直**接驱动市场的发展历史相对较短——此类产品进入工业应用领域仅有十余年。然而这一时期与 Technai Team 这家意大利公司的诞生及发展历史高度契合却绝非偶然：公司的发展壮大与直接驱动式电机的发展轨迹几乎同步，这不仅因为该公司从创立之初就致力于开发此类解决方案，而且也因为该公司自身本就是此类电机设计与改良的主要参与者与贡献人。

1994 年，Technai Team 向业界推出了此项技术，1995 年在米兰 EMO 上又正式推出了直接驱动式铣削/车削复合工作台。继此设计之后，公司又为若干世界最主要的机床制造企业生产了不下数十种适合其他应用的电机。如今，共有约 7000 多台该公司生产的电机运转于世界各地，多数被装配在机床上，另有一部分被应用于印刷设备、自动化系统等等。

## 一个方兴未艾的市场

中国市场充满了机遇，但对产品的选择有其严苛要求——这里需要的是具有极佳性价比的解决方案。

Technai Team 洞察到了此种需求，并开发出一系列满足此需求的产品。

鉴于产品成本会对销量产生重大影响，Technai Team 在其产品设计阶段就开始为实现机床的最佳应用而努力。

该公司为如航天航空、模具及冲模制造等需要车制复杂曲面的行业设计了新型车削/铣削且回转倾斜动力头及工作台，并且全部采用直接驱动技术，以实现超越标准解决方案的显著产品优势。



这些产品配备了复杂组件，并具有多种集成功能，其关键在于使用简单解决方案来解决复杂问题。他们始终对各类部件的工程设计精益求精，为市场提供尽可能多的标准工贸组件。

单是大量动力头的销售潜力即可引致生产工艺的工业化并显著节约成本，这一切均不会影响产品的内在质量。此外，模块化也能实现相对较大批量的生产，因而还可开发高效生产线从而进一步降低成本。

#### 双赢合作

这些产品皆由台湾 Ken CNC Inc 在中国市场销售。



## A PARTNERSHIP FOR THE CHINESE MARKET

The direct drive market is relatively young because it has been available in industrial ambit for slightly more than ten years. It is not fortuitous that this corresponds to the age of Technai Team, Italian company that not only has grown together with these motors but it has also shared in designing and improving them, being committed to the development of these solutions since the beginning.

In 1994, Technai Team proposed this technology for the industrial world, then it presented it officially in 1995 at EMO in Milan under the form of combined milling and turning table powered by Direct Drive. This design was followed by dozens of other applications manufactured for some of the most important machine tool manufacturers worldwide. Today more than 7,000 motors are operating all over the world, many of them are installed on machine tools while others equip printing plants, systems in the automation market and so on.

#### A RISING MARKET

The Chinese market is full of opportunities but also very selective: they require in fact solutions with extremely competitive cost/performance ratio.

Technai Team has understood this need and has developed a line of products able to meet these expectations.

Since the cost of a product strongly influences its purchase, Technai Team has worked for the optimal use on machine tools since the design phase.

*Backed by a strong experience in the design and production of solutions based on direct drive technology, Technai Team has developed a line of heads and tables specifically conceived for the Chinese market.*

The new turning/milling and rotary-tilting heads and tables are designed for sectors where it is indispensable to mill complex surfaces, like aeronautics and mould and die making, and they are based just on direct drive technology to grant significant advantages compared to standard solutions.

They are complex components, with several integrated functions: the key factor was the use of simple solutions able anyways to solve complex problems. They put then utmost care in the engineering of the various parts, turning as much as possible to the market of standard trade components.

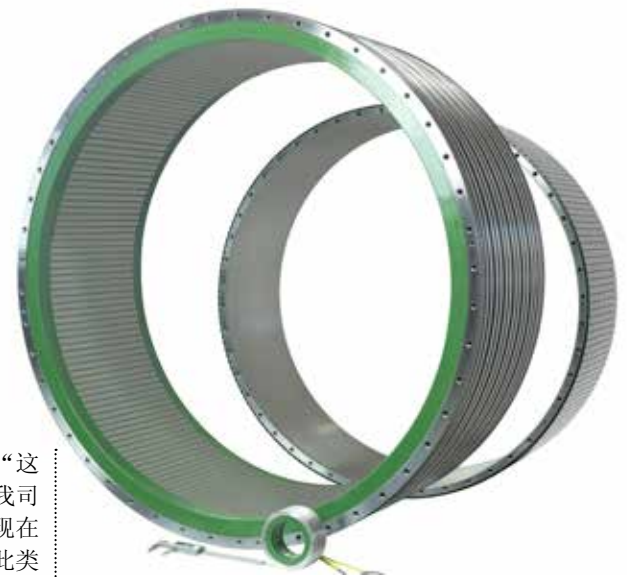
The possibility itself of selling a good number of heads has permitted to industrialize the productive process and to obtain significant savings, all that without affecting the intrinsic quality of the product itself. Besides, the subdivision into modules has allowed producing relatively bulky batches, leading to the development of a very efficient production line and sharing in reducing costs.

#### WINNING PARTNERSHIP

These products are marketed in China by the Taiwanese Ken CNC Inc.

Technai Team established this partnership four years ago: since then it has developed the collaboration setting a product line perfectly suitable for the local market.

«70% of the products installed in China are located by few ➔»



Technai Team 在四年前与 Ken CNC Inc 建立了合作关系：公司自那时起即开始部署完全适合当地市场产品线的协作。

“在中国市场安装的产品，约70%都是从这几家客户购置的。” Technai Team 总裁兼

技术经理 Roberto Colombo 解释说，“这也使我们与 Ken CNC Inc 有条件来优化我司设备的安装与售后服务。故而这些客户现在也有能力安装并妥善维护我司设备了：此类能力与服务情况受到中国客户的赞誉且满足

→ customers. – explains Roberto Colombo, president and technical manager of Technai Team – This has allowed us and Ken CNC Inc. to optimize the installation and the service of machines, too. Therefore today they have the competences to install and to take care of our heads completely: in China this type of competence and presence is highly appreciated and meets the expectations of the best organized companies. They are not heads and tables implemented to cost as little as possible but to grant an excellent price/performance ratio, so that they can be winning in a very competitive market, where European manufacturers are requested to supply high-level technological solutions».

The quality of an Italian product is in fact much appreciated in China: the criticality elements are the geographical distance and the language. With the support of a local partner, Technai Team does not simply transfer material: Ken CNC Inc. technicians have been trained to be fully able to manage the installation on their own machines as well as on other manufacturers' and to intervene promptly in case of need.

#### **SIMPLE BUT RELIABLE**

A further advantage is the reliability increase and the consequent maintenance simplification.

The transmission module, for instance, includes a direct drive integrated with measuring system, cooling circuit etc.: everything is implemented and tested as module in itself, which will be afterwards assembled inside the head. In this way, it is possible to setup the single modules independently one another and to proceed to the assembly only at the end of the process, reducing production times and the necessary manpower.

This also facilitates eventual maintenance or replacement interventions because on one hand it permits to intervene selectively on a single module, thus shortening the intervention times by customers' and on the other hand it allows rationalizing the spare parts magazine at Ken CNC Inc.

The calibration itself of motors is carried out by Technai Team on test bench but the procedure is shared with Ken CNC Inc. so that they can execute a tuning operation directly on the machine, permitting to obtain the maximum from heads and tables.

«Intervention times and problem-solving are essential elements: the Taiwanese staff was trained both by the Italian headquarters of Technai Team and directly in Taiwan so that they can intervene totally. In this way, it is possible to transfer all useful information to provide end-users with the highest advantage, so that they can exploit our solutions immediately and at best».





整个设置过程结束再将其转为组套件，这就可节省生产时间及所需人力。

此外，上述设计也利于最终维护或更换操作等等，一方面可选择性干预单个模块，从而缩短客户总体干预时间，另一方面可为优化 Ken CNC Inc. 的备件库存提供保障。

马达校准由 Technai Team 在测试台上完成，但有关程序也已传授给 Ken CNC Inc，以便其直接对设备实施微调，令动力头和工作台达到最高工作效率。

“干预次数与故障排除是两大关键因素：台湾工作人员均接受过 Technai Team 意大利总部的培训和在台湾的直接培训，以确保其可完全胜任。这样才能为最终用户提供最大的产品优势，使其可从我们的解决方案中即时获取最高效益”。

了那些最佳运营公司的需求。我们的动力头和工作台并不旨在无限度地降低成本，而是提供绝佳的性价比，以赢得要求欧洲制造商提供高水平技术解决方案且又极度激烈的市场竞争”。

意大利机床产品的质量在中国口碑极佳：地理距离和语言差异是影响产品销售的两大主要因素。在当地合作伙伴的支持下，Technai Team 的角色也远非仅是运送设备：经过培训，Ken CNC Inc 的技术人员已足可为其自有设备及其它制造商设备配装 Technai Team 部件，并可在有需要时及时干预。

#### 简单可靠

此类设备更深层次的优势在于其可靠性得以提升，故而其后续维护要求得到简化。

传动模块，如集成测量、冷却回路等的直接驱动系统：一切性能均以模块形式实现并加以测试，之后再以模块形式配装至动力头内。采用这一方式，就可以逐个设置单个模块，并待

