

应用案例—美国林肯（Lincoln）焊机公司

林肯公司简介

林肯（Lincoln）公司成立于 1895 年，是世界领先的焊机、焊接机器人制造商，该公司全球 7000 名员工，2005 年度的销售额为 10.4 亿美元。林肯公司的钣金加工设备包括：

- 天田转塔冲床
- 史翠柏转塔冲床
- Finn-Power 钣金 FMS 柔性生产线
- 辛辛那提激光切割机
- 瑞士百超激光切割机



林肯公司在全球工厂总共有超过 30 台以上各个型号的机床。

JETCAM 解决方案

林肯公司于 1999 年随着使用 Finn-Power 柔性钣金生产线开始使用 JETCAM 软件，JETCAM 运行 6 个月之后，林肯公司意识到采用 JETCAM 软件替换其它机床的原厂编程软件将会给公司带来巨大的收益。



用户评价

制造部工程师 Ken Zavasnik 先生对 JETCAM 性能的评价：

“编程时间节省了 20%。”

“.....JETCAM 软件带给我们的回报远远超过了软件本身的投资。JETCAM 软件使我们的生产效率得到提高，进而提高了公司的产能和利润，此外还在很多方面节省了费用。”

“.....如果我们再买激光切割机或者是转塔冲床，我知道 JETCAM 将会满足其编程的各方面要求。JETCAM 带来的回报已超出了当初投资的许多倍。”

Case Study
User: Lincoln Electric
Expert Premium

Company Information
Turnover: 700M USD
Staff: 7000 worldwide
Business: Metal fabricator in arc welding, robotic welding, plasma & oxy-fuel equipment
Machines: Cincinnati Milacron, Lincoln Electric, Smith, Bridgeport, Finn-Power, Turret Punch Presses

Purchase Benefits
Standardized on one system for all punching and profiling machines
Replaced an ageing UNIX-based system, which previously cost significant time and money to maintain and update
Code generation processes now more streamlined as opposed to fragmented through separate modules
Programming time reduced by 20% (saving 1200 man hours saving per year)
Operations trained on JETCAM not alone we opened to 2 weeks for previous system
Saving almost a week in production time per annum due to machine cycle time improvements
Ongoing maintenance upgrades continue to increase ongoing savings and produce new benefits, such as automatic detection, saving up to 30 minutes per job

User Comments
“The savings we’ve seen installing JETCAM have more than paid for the software. The increased efficiency gained using JETCAM will only further improve our throughput. This all adds up to increased profit and increased savings here at Lincoln Electric.”
Ken Zavasnik
Process Engineer
Manufacturing Engineering

Requirements
Lincoln Electric, based in Cleveland, Ohio are the world leaders in the design, development and manufacture of arc welding products, robotic welding systems, plasma and oxy-fuel cutting equipment. Their production facility houses several punching and profiling machines that, until the purchase of a Finn Power punch press relied on an ageing UNIX-based CAD/CAM system. It was difficult to learn, extremely customized and expensive to support. Commented Ken Zavasnik, Process Engineer, “We bought a turret punch from FMS Machine Tools in Cleveland and was also offered JETCAM Expert. It was only after this was installed and working that we realized how cryptic our original system was - we had to go through so many modules to generate code. JETCAM met our needs straight out of the box, whereas the old system was virtually unusable for each installation, making it difficult to learn, and expensive to upgrade and maintain.”

The JETCAM Solution
The programmers received two days training on JETCAM Expert, after which they were able to completely program the new turret punch press. After six months of use Lincoln Electric decided to standardize on JETCAM for their entire production facility, purchasing the relevant postprocessors for their machine tools.

Of the crossover Ken said, “By this time we knew that selecting one system had to be the best way looking forward, and it was obvious that it would be JETCAM. The transition was seamless, but we were also surprised at the number of positive effects it had across production. There was much more flexibility than we were previously used to, which allowed us to program parts differently - on average saving us 20% programming time, which equates to around 240 hours a year.”

JETCAM's flexible approach to programs also produced savings in machine cycle time. Ken stated, “Our old system used to add a reposition move at the end of the cycle, which we could easily eliminate with JETCAM. The two turrets have a combined annual sheet usage of just over 30,000. The reposition adds 12 - 16 seconds to the cycle time, so by removing this we gained almost 5 days in the course of a year in reduced movements.”

As their previous system had been so costly to maintain, Lincoln Electric were initially cautious about the level of support the new system would require. Ken added, “The support from both FMS and JETCAM has been fantastic. Any questions that have been presented are always answered promptly and thoroughly. We requested some changes to code output, which was turned around quickly and met our needs that time.”

A year on from selecting JETCAM as their programming system Lincoln Electric has also benefited from regular software updates, which they are able to install themselves over the Internet. Commented Ken, “We have seen several benefits and new features from new releases, a recent example being automatic skeletal destruction. This has proved very useful on the profiling machines, saving us up to 30 minutes per job. If we were to purchase another turret punch or laser in the future, whatever we get JETCAM will be driving it. The system has already paid for itself many times over.”

When a company makes such a heavy investment in machinery it is important to ensure that they are getting the absolute maximum performance from their programming system. Since switching entirely to JETCAM Lincoln Electric has also benefited from regular software updates, which they are able to install themselves over the Internet. Commented Ken, “We have seen several benefits and new features from new releases, a recent example being automatic skeletal destruction. This has proved very useful on the profiling machines, saving us up to 30 minutes per job. If we were to purchase another turret punch or laser in the future, whatever we get JETCAM will be driving it. The system has already paid for itself many times over.”

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