



The Bend  
The Combi  
The Laser  
The Punch  
The System  
The Software

**NC Express e<sup>3</sup>**  
**Programming efficiency for a  
productive fabrication process**

# NC Express e<sup>3</sup>

NC Express e<sup>3</sup> programming system is a user friendly, integrated and automated tool for managing Prima Power equipment in the most efficient manner.

NC Express e<sup>3</sup> is a scalable application – the system may be used as a single part drafting and tooling program or as a fully automatic machine tool programming system. Either way the results are the same – optimized automatic NC-code creation.

NC Express e<sup>3</sup> is part of Prima Power software family designed to work seamlessly together with Prima Power machines and Tulus® Office software.

NC Express e<sup>3</sup> =

- \* Higher productivity
- \* Higher reliability
- \* Better product quality
- \* Shorter lead times



## Benefits at a glance:

### Flexibility

from manual part preparation and manual nesting to fully automatic processing

### Commitment

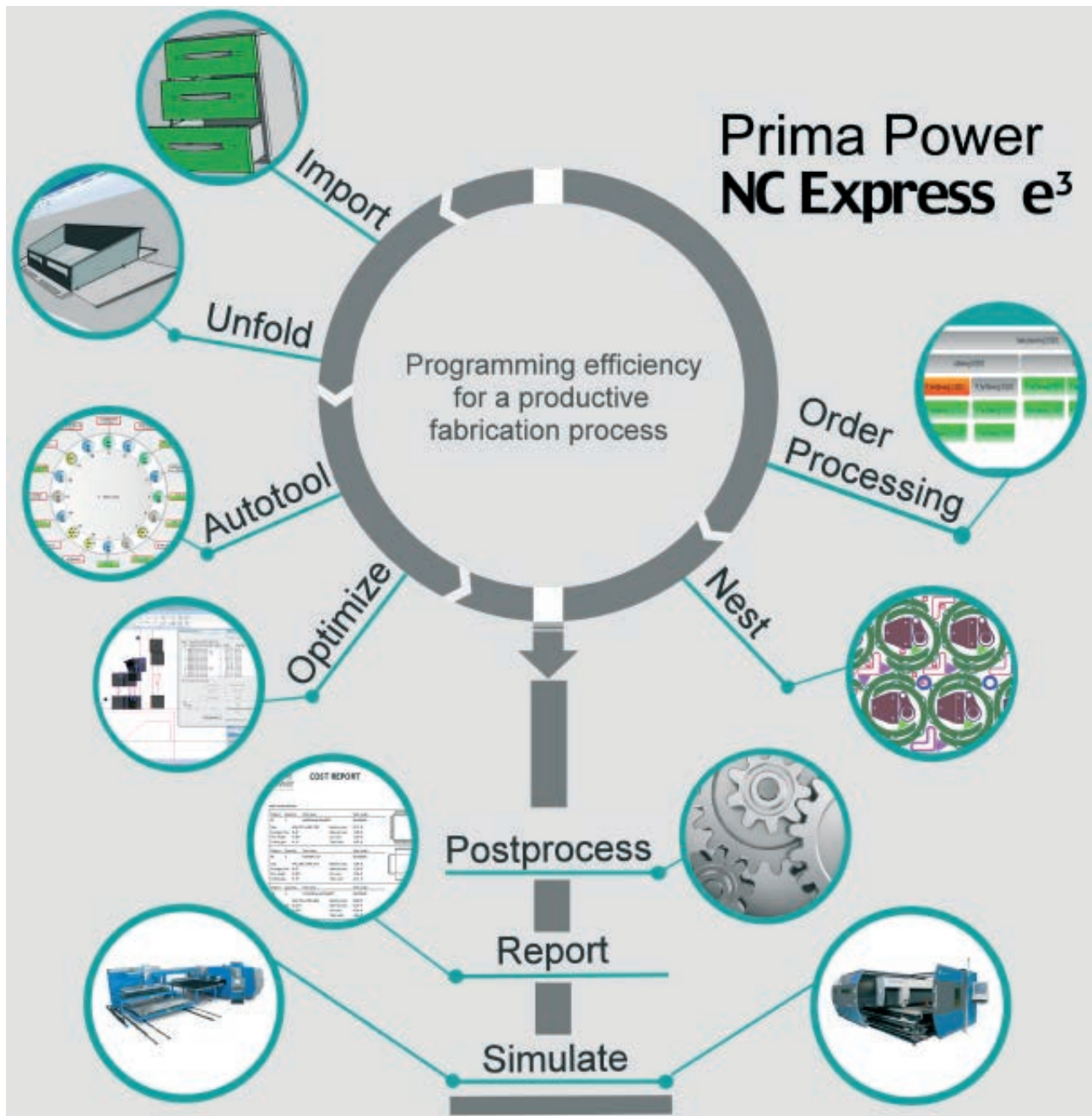
commitment to support customer production from consultation, training and support to customization

### Support for all technologies

unfolding, laser cutting, punching, shearing and robot pickup all in one package

### Complete solution

developed for Prima Power machines, proven and tested for Prima Power machines, supported by Prima Power



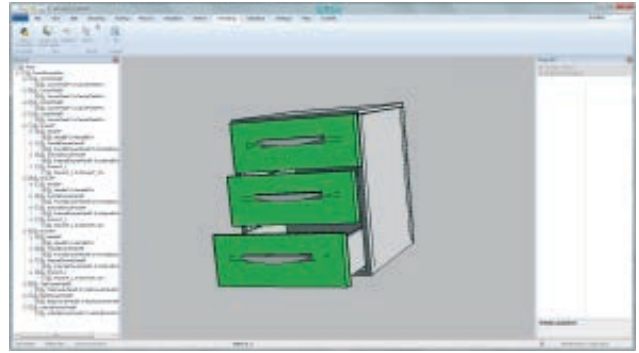
IMPORT	Import extensive range of 3D- and 2D-drawing files
UNFOLD	Precise unfolding of assemblies and single part models
AUTOTOOL	Intelligent autotool to reduce manual preparation work and get fast machine run times
NEST	Efficient nesting to reduce manual preparation work, reduce sheet usage and support reliable machine operation
OPTIMIZE	Powerful optimization to get full speed and reliable operation
POSTPROCESS	Reliable postprocessors proven and tested for Prima Power machines
REPORT	Fully customizable reporting for operators and management
SIMULATE	Visual simulation of NC-program



# Unfolding

NC Express e<sup>3</sup> comes with an extensive range of native 3D-file importers and makes it easy to read 3D-models from various CAD programs.

You can create precise unfolded flat patterns either from an assembly or a single part model. Flat pattern holds all necessary information for further processing either on a punch, a laser or a shearing machine.

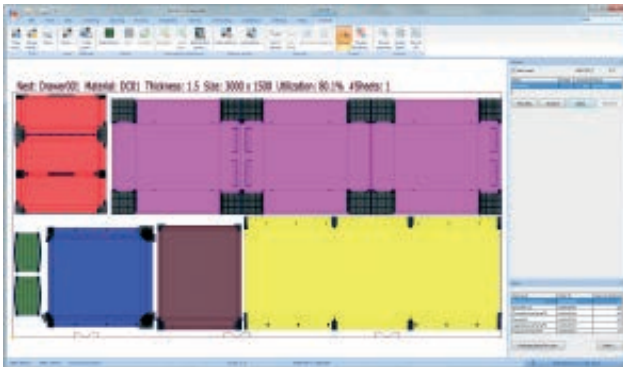


NC Express e<sup>3</sup> assembly import

## Automatic nesting for punching, shearing and laser cutting

NC Express e<sup>3</sup> comes with a powerful nesting module for free-form and sheared parts. It can search for the best suitable sheet size, determine coil cut lengths and nest parts automatically commonline for punching, laser and shearing machines. Automatic nesting saves your work time and brings material consumption down.

Nesting automatically observes clamp protection areas, working area limits of robot, punch, shear and laser head and keeps part separation adapted for the cutting process. Thus the automatic nesting layout is always good for processing on the target machine.



NC Express e<sup>3</sup> punch-shear nesting layout



NC Express e<sup>3</sup> free-form nester

## Automatic part sorting for automated system



Integrated automatic tooling process adds a robot gripper placement based on part geometry, punching and forming hits and part weight.

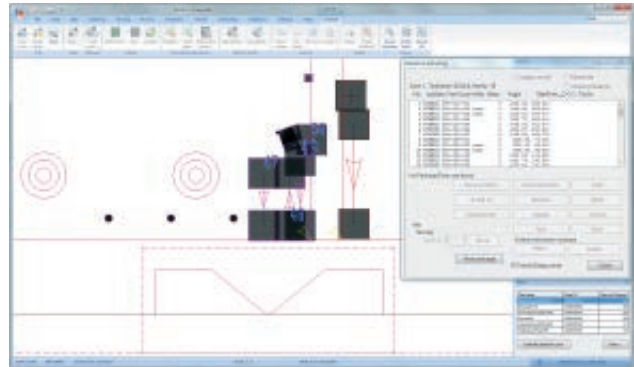
User can change the gripper hold interactively and still the software guarantees, that all motion limits are observed.

Because the gripper position is stored in a part file, consequent nests reproduce the same reliable pickup time after time.

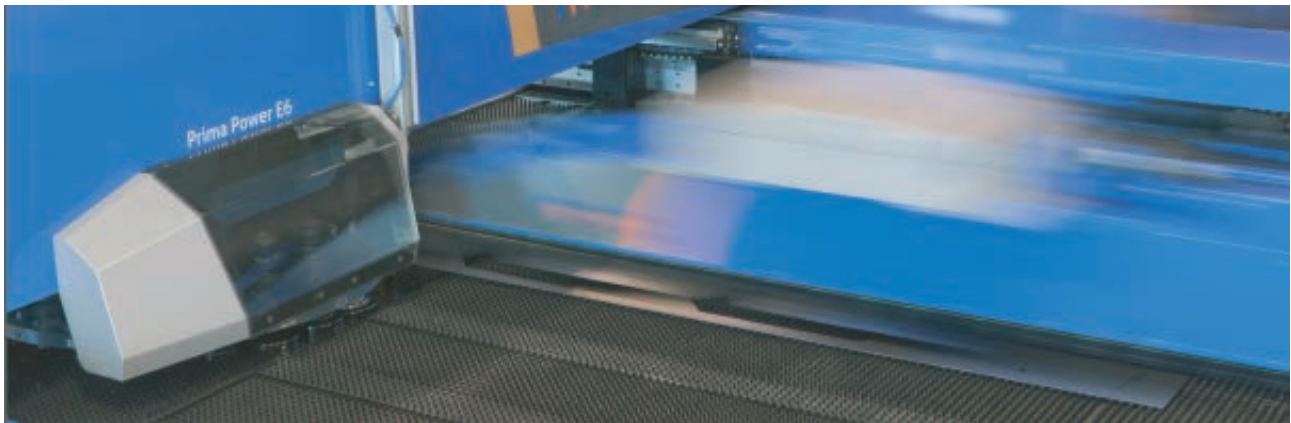
# Automatic machine sequence optimization for punch, shear and laser

Motion sequence overall has a considerable impact on machine performance in terms of reliability and speed. NC Express is designed to get the best performance from Prima Power machines.

Know-how on how laser technologies, head up/down logic, repositioning, clamp moves, shear scrap hits, common line punch, common line laser cut, laser grid cutting, punch work chute sorting, laser drop door sorting, robot pickup, indexable Multi-Tool® or tool change work the most efficient way is all built-in to the optimization.




NC Express e<sup>3</sup> punch-shear optimization



## Full setup and production reporting

Setup and production reports together with time and cost reports are available either as PDF documents, printed reports or computer readable files. Report templates are customizable to fit possible specific needs.



**Prima  
Power**  
Manufacturing Division of Prima - India for Europe

# COST REPORT

Date: 9.9.2014 10:22:08

## PART INFORMATION

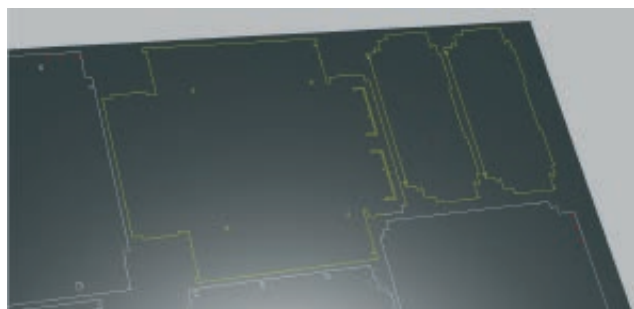
Part name	Quantity	Part name	Work order
#1	1	BackDrawerPanelPO	Euroblech
Size:	636.327 x 603.720	Machine cost:	0,71 €
Average time:	0:31	Material cost:	1,06 €
Net weight:	4.387	Gas cost:	1,28 €
Cutting gas:	0.13	Total cost:	3,07 €

Part name	Quantity	Part name	Work order
#2	2	DrawerF_10	Euroblech
Size:	791.286 x 696.917	Machine cost:	1,06 €
Average time:	0:47	Material cost:	1,39 €
Net weight:	9.818	Gas cost:	1,84 €
Cutting gas:	0.19	Total cost:	4,31 €

Cost report shows detailed information of production costs

## True Simulation

With visual simulation you can verify that cutting and punching sequence is optimal. The same simulation is run at the machine controller as well guaranteeing the reliability and full compatibility of the NC-program.



Simulation verifies optimal cutting and punching

# Lifetime commitment

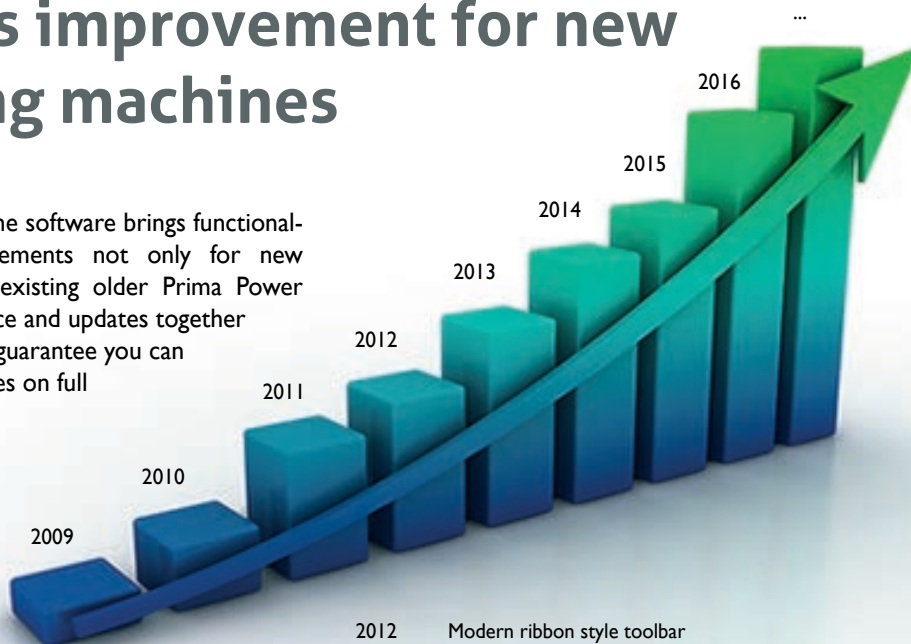
Maintenance plan offers support for Prima Power machines of any age. Phone and email support together with software upgrades help you to get the most productivity out of your machines during their whole lifetime.

Prima Power maintenance is a full coverage solution supporting you to produce sheet metal parts most efficiently. Possible challenges in software, machine or applications are all answered and taken care of.

Prima Power maintenance	Software	Machine	Application
 <b>Phone assistance</b> Expert technicians at your service, to answer to all questions and doubts			
 <b>Email assistance</b> Fast and exhaustive replies from our experts via email			
 <b>News</b> Be the first to know about our latest developments and events			
 <b>Online</b> Online support from our expert technicians			
 <b>Software updates</b> Improve your production with software updates			

## Continuous improvement for new and existing machines

Continuous improvement of the software brings functionality and productivity improvements not only for new machines but also for your existing older Prima Power machines. Software maintenance and updates together with the professional support guarantee you can run your Prima Power machines on full productivity - year after year.



2009	Platino and Tulus machines supported turret layout synchronized from the machine Tool library synchronized to the machine
2010	Destruct clamp strip with punch hits on SG Graphical turret view display of missing and required tools Part-by-part processing for long parts and releasing parts in batches Cost reporting
2011	Tulus laser machines supported Sincrono supported Domino with bevel cutting supported Support for 64-bit computers Network licensing

2012	Modern ribbon style toolbar Customizable toolbar and keyboard shortcuts True type font marking Enhanced interactive nesting
2013	Load folder of parts to order database Enhanced punch destruct for any shape Highlight of selected part within a sheet View all sheet layouts of a nest
2014	Cost calculation tool with automatic tooling Add & remove tooling layers interactively Keep existing tooling option in autotool for complicated parts Support Platino+LST
2015	3D-model import integrated Precise unfolding integrated New powerful free-form nesting New powerful simulation

# Reliability, efficiency and speed in production

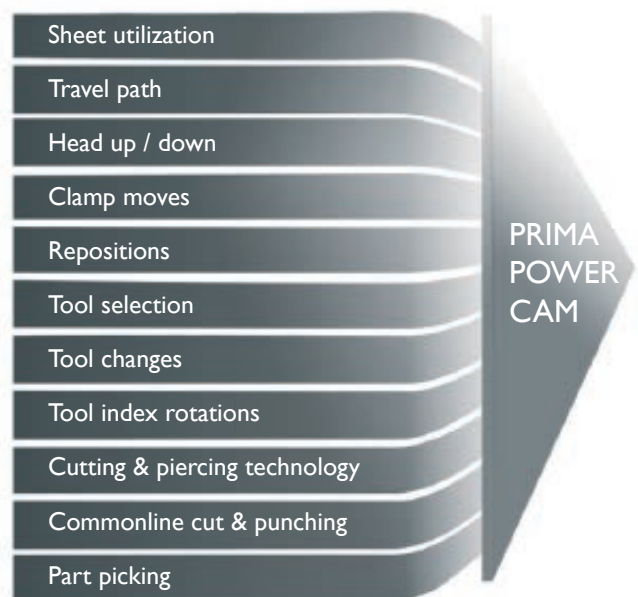
NC Express e<sup>3</sup> is designed ground up to get the best performance from Prima Power machines. New features on machines are first implemented using NC Express e<sup>3</sup>, which assures fluent and efficient operation. Prima Power expertise over the years is used to fine-tune all aspects for reliable every day production.

## Automated programming

NC Express e<sup>3</sup> supports automatic programming from CAD model and ERP order data to NC-programs. It can automatically add laser cuts and punch hits to geometry files or use scripts for parametric parts. Through the order database you can import order data, nest them to sheets, optimize and postprocess to NC-programs. This is an ideal solution when production has a lot of short non-repeating runs which need human knowledge frequently.

Tulus Power Processing can take this automation to a new level adding support for multi-machine scheduling and routing, customized adaption to ERP, full view of production status and fully automated NC-program generation for repeating production.

### SPEED GAIN



### RELIABILITY GAIN

## Save money and time with sustainable manufacturing

Reliable production run together with optimized machine efficiency and speed guarantee the best possible throughput for Prima Power machines. Efficient automatic nesting reduces material usage and brings everyday cost savings.

Professional and prompt support from Prima Power in case of technical problems makes downtimes rare and short. Simple and automated programming reduces work effort and facilitates lean production.



