

TX7+

The Tough Production Performer



ANCA[®]
TOTAL PRECISION

TX7+ : the machine by which others are judged

A benchmark in CNC grinding

ANCA TX7+ is the result of more than 20 years of intensive R & D, listening to our customers, and then implementing changes to suit their needs. Our achievements in the fields of CNC technology, mechanical and electronics design as well as software engineering over two decades are the basis of this unique product. It is a machine that has established itself as a benchmark in the world of CNC grinding.

ANCA has introduced a range of innovative solutions to the CNC tool grinding world that are industry standard today. These include automatic tool digitizing, 3D simulation, integrated modem for remote diagnosis, MPG feed – just to name a few.

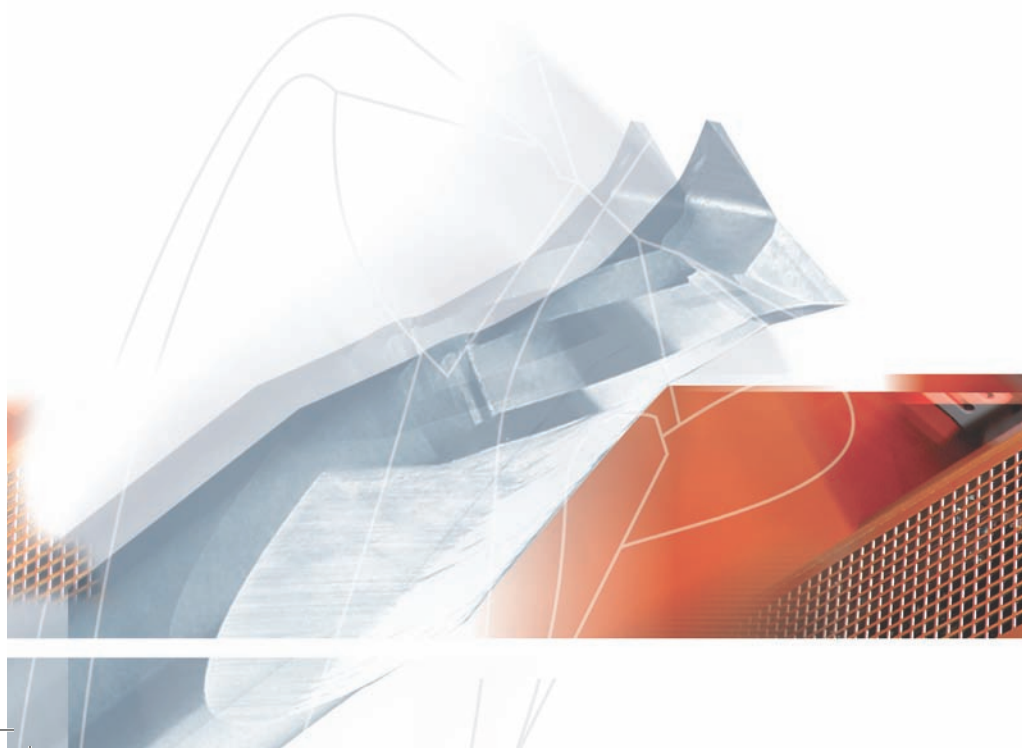
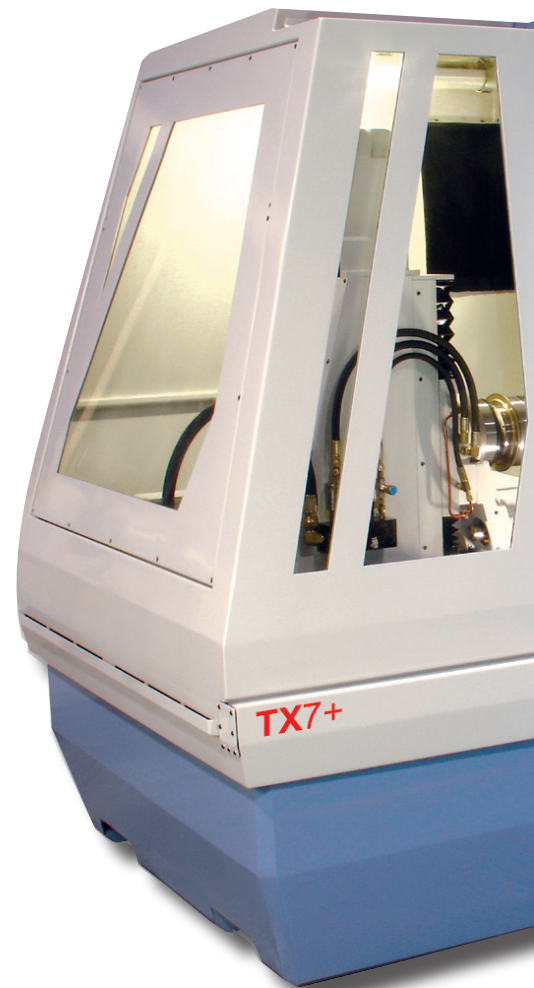
Precision, productivity, versatility and confidence

These are ANCA's core values, and they're built into every TX7+ machine. The mechanical concept and its flawless execution guarantees highest possible **precision** and superior surface finish of the resulting product.

The robustness of the TX7+ combined with cleverly designed tooling and automation provides high **productivity** output. ANCA ToolRoom® software suite delivers **versatility** for your application needs today and tomorrow. Just as importantly, you can be **confident** that in entering a business relationship with ANCA, we will continue to provide you with world-class customer support and equipment that is innovative, technologically advanced and reliable.

Accurate and reliable

Without a doubt, one of the important demands is accuracy and surface finish for ground tools. This is one of the hallmarks of the ANCA TX7+. All linear and rotary axes as well as the grinding spindle use ANCA direct-drive technology. In our design, we have eliminated all belts, pulley, and gears. This means not only a more precise machine, but also a more reliable one. Less vibration also contributes to the excellent surface finish produced by the TX7+.



Direct-drive spindle

The TX7+ is equipped with a powerful direct-drive 10,000 RPM, 37 kW (49 hp) spindle. For applications that require higher speeds a 15,000 rpm option is available.

The spindle reaches its full power at 3,500 rpm which makes it ideal for both solid carbide and HSS grinding applications.



ANCA TX7+ at a glance

- ANCA TX7+ has application diversity to cover a broad spectrum of cutting tools and precision components.
- Suitable for heavy-duty manufacturing or reconditioning of precision cutting and drilling tools.
- Automatic wheel changer allows up to eight grinding wheels in one setup.
- Off-line tool design and development with CIMulator3D.
- Wide variety of work holding and support tooling to meet individual needs.
- Variety of automation solutions for increased unmanned operation.
- TX7+Xchanger option with 16-pack wheel magazine for increased productivity and versatility.



TX7+ : here's what makes it such a tough performer

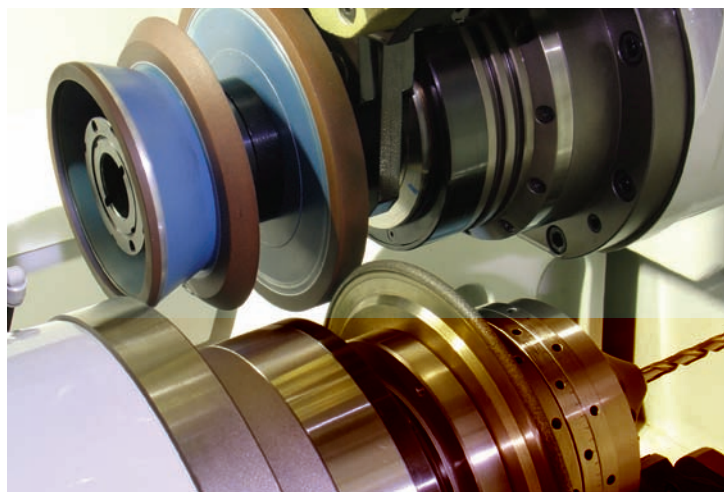
Large working envelope

Despite its compact size, the TX7+ actually provides a large working envelope. It allows tools up to 400 mm (16") long and 300 mm (12") diameter, and has the ability to position grinding wheels in all four quadrants. All combinations of left and right-hand cutting tool direction and helix are possible.

Integrated Dresser

Mounting a dresser roll onto the high speed headstock allows in-cycle dressing of grinding wheels, which is a must for any unmanned and high performance grinding operations.

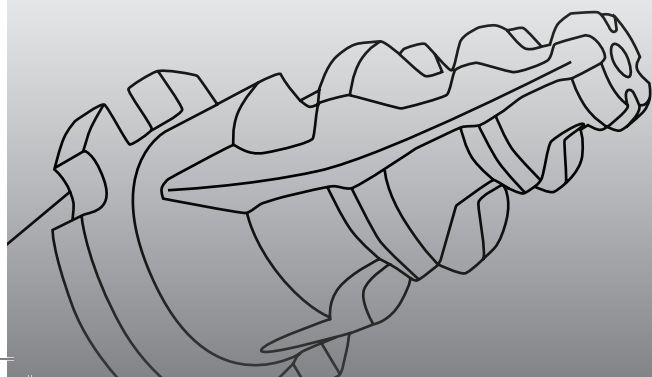
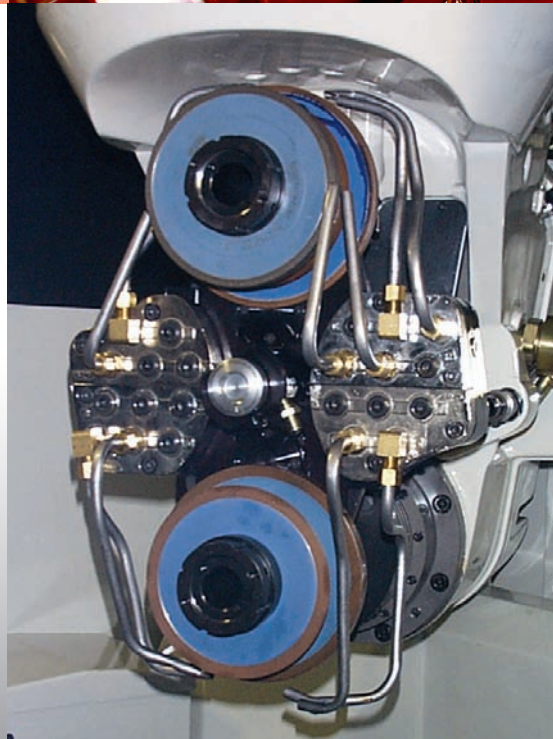
Customized wheel shapes can be imported in the form of a DXF file and automatically dressed and used in any grinding cycle.



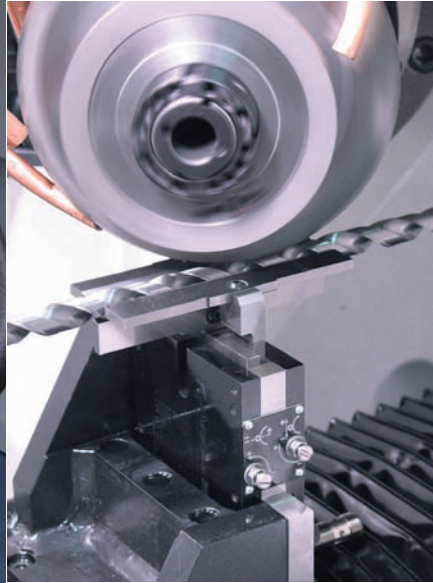
Automatic coolant pipe and wheel changeover

ANCA TX7+ incorporates an automatic wheel changer that allows up to eight grinding wheels (four per arbor) to be used in one setup and one grinding cycle.

The coolant pipes get changed automatically with the wheel pack, so that optimal coolant delivery for each wheel is guaranteed at all times.



Machine-enhancing options

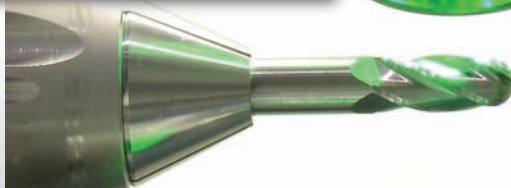
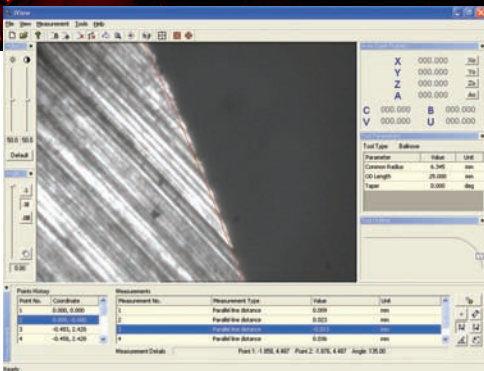


P-axis

ANCA has developed three interchangeable P-axis configurations to increase rigidity and accuracy when grinding tools on the TX7+. For grinding long, slender tools, travelling steadies with either fixed-bush or an Arobotech hydraulic follow-down steady provide support under the point of grinding. Alternatively, the P-axis can be set up with a CNC tailstock for grinding between centres.

iView

iView is a precise tool measurement system developed by ANCA. A CCD camera is set up inside the machine to provide accurate measurement data without needing to remove the tool from the work holding. This enables measured results to be fed directly into the grinding program for automatic compensation and eliminates errors caused by transferring the tool to other measuring devices.



Software

The standard ToolRoom® software suite supports grinding end mills, drills, reamers and step tools. ToolRoom® has the flexibility and simplicity needed to create cutting tools quickly and easily. As well as the standard tools, software options are available to enable the TX7+ to grind:

- Profile tools
- Side and face cutters
- Punch tools
- Wood working cutters
- 3D forms using UGS CAD/CAM grinding.



TX7+Xchanger : the ultimate in grinding flexibility

More wheel packs than ever before

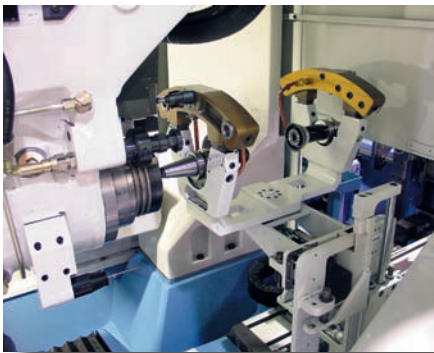
ANCA's wheel Xchanger is the latest development in CNC grinding machines and was designed to deliver greater productivity to users of the TX7+. It provides a mechanism for automatically changing up to 16 wheel packs and coolant manifolds in-process.

TX7+Xchanger has been engineered to be a robust, reliable solution for tool manufacturers who specialize in long production runs or highly-complex shapes. With more wheels now at hand, frustrating downtime required to change packs is virtually eliminated.

Productivity

Extended unattended operations are possible via the iGrind software, which will direct the wheel change at the right moment, eliminating the need for an operator to make the change manually.

There are also no delays to set up coolant pipes because the coolant manifolds are changed with the wheel packs. The operator can set up the pipes off the machine without having to interrupt production.



Versatility

Milled features such as holes, dovetails and keyways can be cut in the tool as the Xchanger mechanism and magazine can handle cutting tools such as drills and endmills.

Sixteen wheel packs can be stored, enabling complex shapes that require multiple wheels such as taps and profile cutters to be handled easily. The operator can choose from up to 64 wheels.

No special fittings are required as the system uses the existing TX7+ Big Plus arbor.

Safety

Automatic wheel changing eliminates the need for operators to handle the wheel packs during grinding cycles. This reduces exposure to harmful oils and carbides.

Muscular injuries caused from reaching into the machine to change wheel packs are virtually eliminated.



Loader options

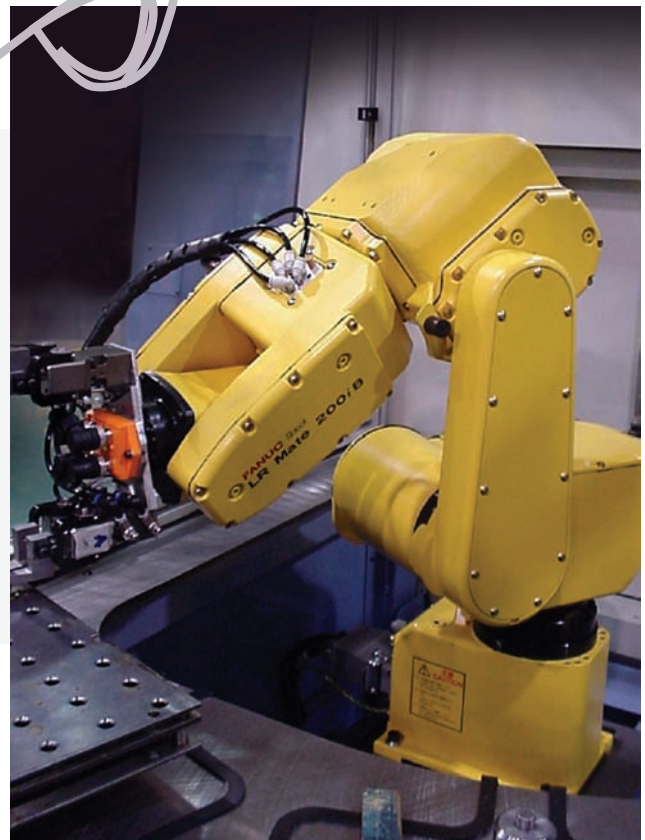
Auto loaders increase a CNC machine's productivity through the capability of unattended operation. ANCA offers two innovative automation options for both the TX7+ and the TX7+Xchanger.

Pallet loader

ANCA's standard TX7+ pallet loader is suitable for tools from 3 mm diameter to 32 mm diameter, and up to 220 mm long. The capacity is 40, 96 or 220 tools, depending upon the size. This can be varied for special applications. As the name suggests, the pallet loader uses a pallet to store tools in the holding cell. Only one pallet is needed because both the tool blanks and the finished tools are stored on the same pallet.

Robot loader

Fanuc's reliable LR Mate 200 robot is the perfect solution for complex loading requirements. The robot is fitted with a pneumatically-driven revolving head on which dual grippers are mounted. This provides excellent flexibility and agility. The robot is secured to an independent table at the rear of the TX7+ and is contained within a transparent enclosure. Access for the operator is via two interlocking sliding doors. The robot is controlled via a teach pendant and uses ANCA-designed software to interface with the TX7+.



Technical data - TX7+

CNC-Data

ANCA 5DX, Pentium 4, min. 1GB RAM, 15" Touch Screen, Ethernet card, 56kbps modem, CD Read and Write/DVD Read only

Mechanical axes

	X-axis	Y-axis	Z-axis	C-axis	A-axis
Position feedback resolution	0.0001 mm	0.0001 mm	0.0001 mm	0.0001 deg	0.0001 deg
	0.0000039"	0.0000039"	0.0000039"		
Programming resolution	0.001 mm	0.001 mm	0.001 mm	0.001 deg	0.001 deg
	0.000039"	0.000039"	0.000039"		

Software axes (patented): B, V, U, W

Work piece

Maximum tool diameter / Maximum weight: 300 mm (12") / 25 kg (55 lbs)

Drive system

ANCA Digital (SERCOS standard) / Linear axes direct-drive ballscrew / Rotary axes direct drive

Machine data

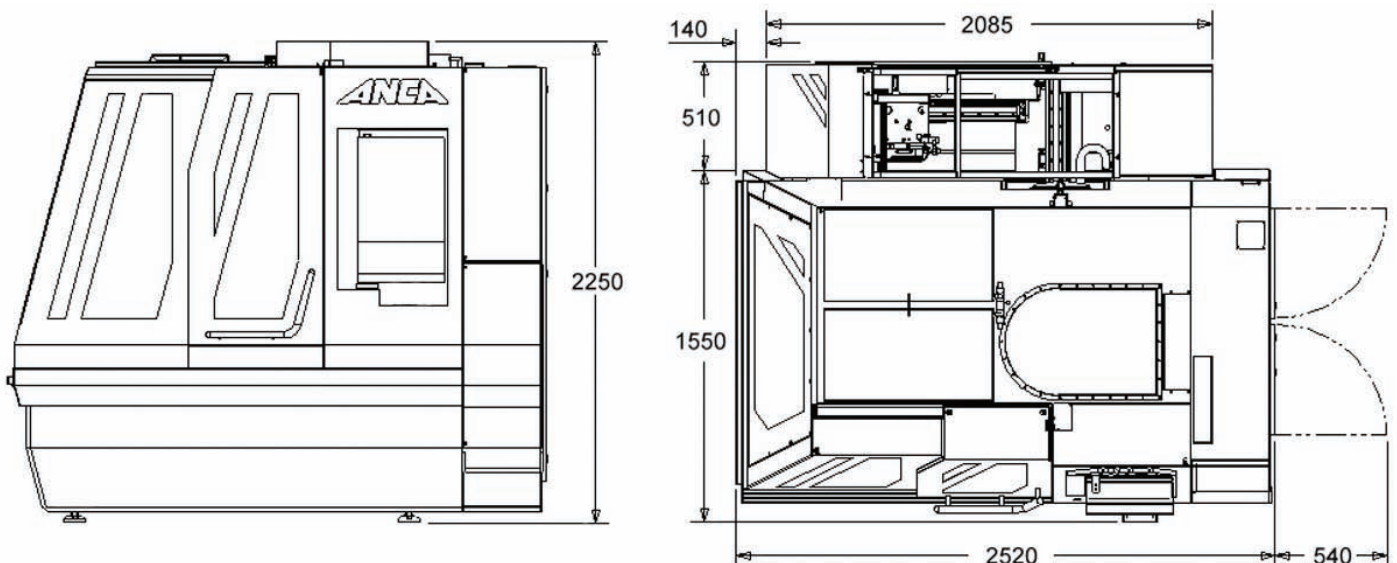
Grinding spindle: ANCA Bi-directional 37 kW (49 hp) peak / 10,000 RPM / Integral direct drive / BIG Plus BT 40

Grinding wheel max. diameter 202mm (8") / Wheel bore: 50.8 mm (2") / Two wheel packs with max four wheels each

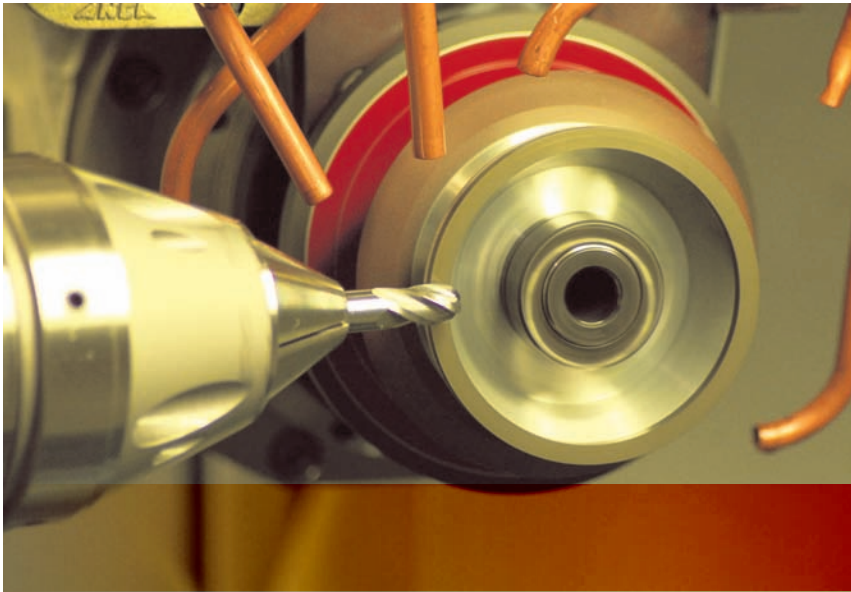
Other data

Electrical power	25 KVA		
Probe system	Renishaw		
Coolant system	External		
Machine base	ANCACRETE (Polymer concrete)		
Colour	RAL 7035 / RAL 5014		
Weight	Approximately 7500 kg (16,500 lbs)		
Floor plan (including coolants)	Width	Depth	Height
	1550 mm	2520 mm	2250 mm
	61"	100"	89"

ANCA reserves the right to alter or amend specifications without prior notice



ANCA global support is part of your investment



The choice of world industry

ANCA TX7+ is the CNC tool cutter and grinder chosen by leading industries where high precision tools and reliability are paramount. Whether you manufacture standard high precision cutting and drilling tools, need to sharpen standard or special tools or manufacture parts for very special applications, the TX7+ provides the toughness and flexibility you require.

The TX7+ will grind ball nose cutters, burrs, straight and step drills, knee joints, bone rasps, aerospace and automotive components equally well.

When you buy an ANCA product, you can be confident that no matter where you are in the world, ANCA is always behind you with our highly trained, customer-focused sales and support network that has 10 branches internationally, and a partner network that extends over 30 countries. While our success is built on being responsive to our customers, ongoing innovation, integration and our global network set us apart.



ANCA's core values of **Precision**, **Versatility**, **Productivity** and **Confidence** deliver to you technically-superior products that provide high precision, reliable, consistent production; and the flexibility to make the most of new, profitable opportunities.





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