



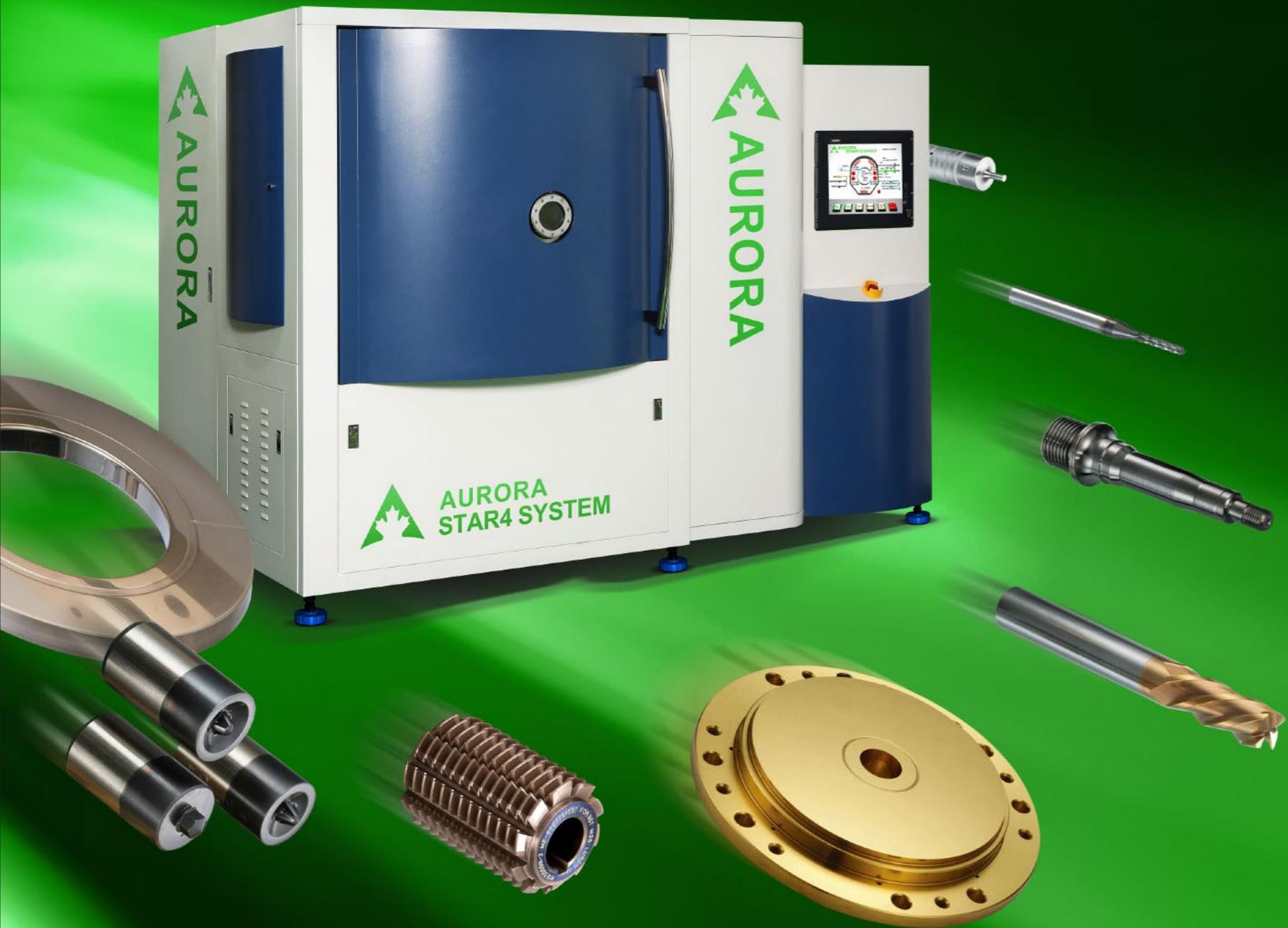
**AURORA**  
SCIENTIFIC CORP.

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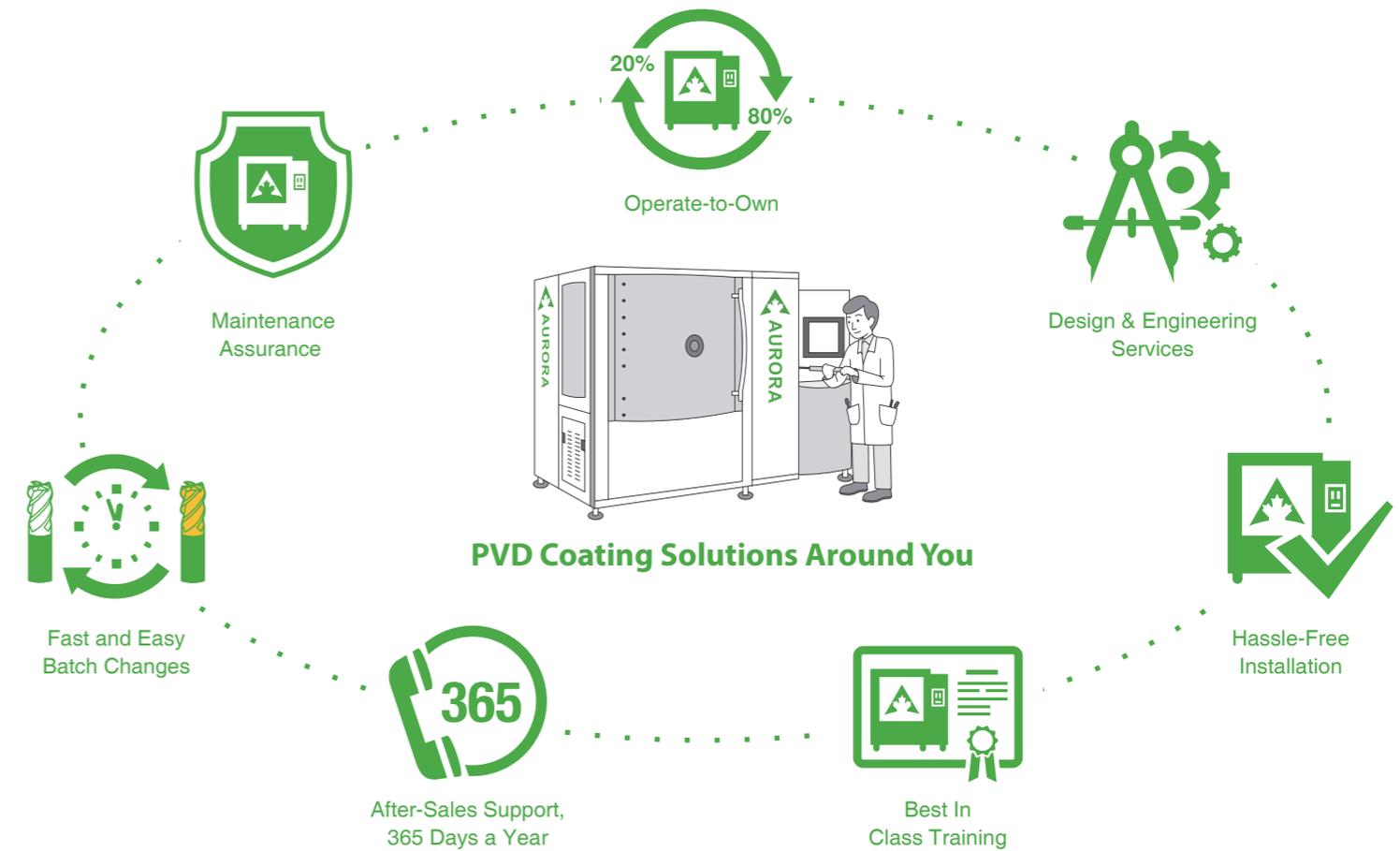


**AURORA**  
SCIENTIFIC CORP.

**PVD Coating Solutions Around You**



## Every Tool Manufacturer Can Own In-House PVD System!



### How?

1. Ensuring a comfortable working partnership with Aurora
2. Our unique turnkey PVD coating solution is designed for you
3. Operate-To-Own program allows you flexibility with production and payment

# Our Turnkey PVD Coating Solution is Designed Around You



## Design and Engineering Services

Our expert engineers will be your go-to guys! We specifically design and craft our in-house coating operations based on your individual space, layout and working practice. Working with you to evaluate your needs, we check everything about your operation flow from cleaning, loading, coating, unloading and quality control. We'll check your existing supply capability, assess your new supply needs, and make suggestions on recommended suppliers. We'll also provide a personalized equipment layout drawing, custom-made for your facility. We're your one stop shop for PVD operations! Rest assured knowing that you're trusting the right job to the right people.



## Hassle-Free Installation

We take care of every aspect of installation and commissioning of your PVD coating equipment. Aurora engineers on site perform complete setup, including several tests and trial runs. We'll even run coating checks on your parts until you're 100% satisfied, and sign our acceptance report. That way, you'll get hands-on training from experts to boost your skills and confidence with your new machinery, and be familiar with running the machine in a flash! So you can go from installation to full production like a pro, in no time at all!



## Best In Class Training

We're taking you back to school with our comprehensive training program, to ensure your operators possess all the necessary knowledge to fully operate your machines. From coating knowledge to basic troubleshooting, we provide the option for on and off-site training for your convenience. We'll also provide and go through our step-by-step operations manual, which explains in detail all your troubleshooting solutions. Providing engaging, practical and visual training materials online and in person means your staff will be competent, confident, and ready to coat! And all at a reduced training cost for your business.



## After-Sale Support, 365 Days a Year

If you still need our help, we are only a phone call away! We provide full after-sale service, troubleshooting options and full consultations all year round, so you never need to feel like you're on your own. We'll get the problem sorted with a remote online diagnosis, or give detailed help over the phone. If that doesn't do the trick, one of our engineers will be out to your facility within 24 hours. Getting the right assistance and support you need around the clock from our global network means you don't have to worry about production downtime. Help is always close at hand!



## Operate-To-Own Program

We know that budget can be a restraining factor when it comes to expanding your business. That's why we offer a unique Operate-to-Own program that allows our customers flexibility with production and payment. Minimize your cash flow pressures by paying for your in-house PVD coating machine when it starts to pay for itself!

### How does it work?

As soon as the machine is fully installed and running in your facility, you'll be in our one year warranty period. You'll pay a monthly balance on rental of the equipment, and be able to use your machine in your own workspace without the financial worry! And with regularly scheduled visits from an Aurora Service Engineer within your warranty contract, you can feel secure, proficient and protected when using Aurora equipment.



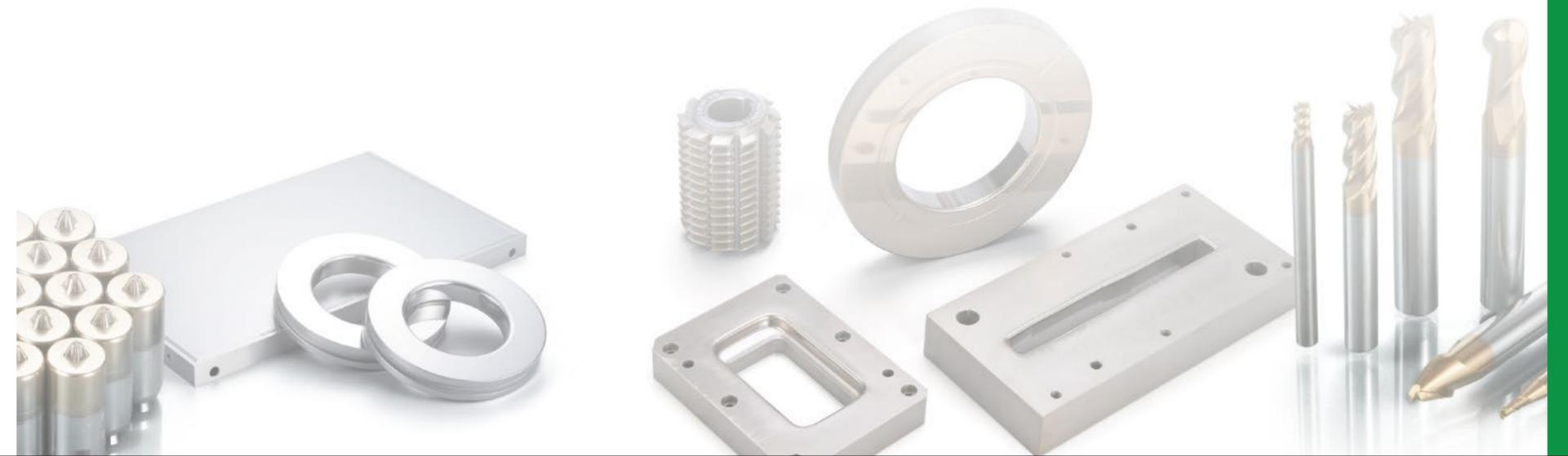
## Fast and Easy Batch Changes

When you rely on Aurora PVD equipment, downtime is never an issue! Each target is easily changed in only 15 minutes between different coating batches. If your target material is all used up, your operator can replace it effortlessly on his own, cutting labour, costs, and time!



## Maintenance Assurance

When you sign up to our Operate-to-Own program, your first annual maintenance assessment is on us! Our expert engineers will take care of the work, all you have to do is cover materials and consumables. What a great deal! And not only that; for the next year's assessment we provide the check list at installation, so you can take care of it yourself! But don't worry, if you prefer our help you can always give us a call.



**Need financing? With Aurora, it's possible! Call today and get approved!**

## Coating Types & Applications



## Coating Properties

Aurora Coating	Traditional Name	Color	Thickness (µm)	Maximum Operating Temp (°C)	Microhardness (HV 10g)	Friction Coefficient	Features	Industries
TITAN	TiN		1~7	600	2200~2500	0.55	<ul style="list-style-type: none"> <li>General purpose coating</li> <li>Decorative purpose</li> <li>Good for machining carbon steel (less than 30 HRC)</li> </ul>	Cutting Tool Decorative Coating Forming
TITAN-A5	TiAlN		1~4	800	2800~3200	0.6	<ul style="list-style-type: none"> <li>Great wet-machining performance</li> <li>Good for machining tool steel (less than 45 HRC)</li> </ul>	Cuting Tool Forming
TITAN-A7R	AlTiCrN		1~4	900	3200~3600	0.65	<ul style="list-style-type: none"> <li>Higher operational temperature range (T&gt;800C)</li> <li>Great wet - dry machining performance</li> <li>Good for machining steel (in the range of 45~50 HRC)</li> </ul>	Cutting Tool Punch / Forming
TITAN-A7	AlTiN		1~4	800	3200~3600	0.7	<ul style="list-style-type: none"> <li>Higher operational temperature range (T&gt;800C)</li> <li>Great dry machining performance (minimum use of lubricants)</li> <li>Good for machining steel (in the range of 50~55 HRC)</li> </ul>	Cuting Tool Punch / Forming
TITAN-AC	TiAlCN		1~4	400	2500	0.3	<ul style="list-style-type: none"> <li>Excellent for machining Al-alloy 6061/7075</li> </ul>	Cutting Tool
TITAN-C	TiCN		1~4	400	2200~2500	0.25	<ul style="list-style-type: none"> <li>Good for HHS drill</li> <li>Lower friction than TiN</li> </ul>	Cutting Tool Hobbing Punching
TITAN-R	TiCrN		1~4	700	2100	0.5	<ul style="list-style-type: none"> <li>Multilayer CrN/TiN coating</li> <li>Excellent in molding and high precision parts protection</li> <li>Anti-rust/corrosion</li> </ul>	Molding
ORION-T	TiSiN		1~4	1100	3300~4600	0.45	<ul style="list-style-type: none"> <li>High operational temperature</li> <li>High hardness</li> <li>Excellent for Stainless Steel</li> <li>Excellent in high speed dry cutting</li> <li>High abrasive wear resistance</li> </ul>	Cutting Tool Hobbing
ORION-AR	AlCrSiN		1~4	950	4500	0.7	<ul style="list-style-type: none"> <li>Excellent in high speed dry cutting</li> <li>Good for machining harder steel (55 HRC up)</li> <li>Good for machining Ti-alloy</li> </ul>	Cutting Tool Forming Molding
SCUTUM-Z	ZrN		1~4	550	2000	0.4	<ul style="list-style-type: none"> <li>Great for machining Al-alloy</li> <li>Anti-corrosion</li> </ul>	Cutting Tool Aerospace
SCUTUM-R	CrN		1~7	700	1800	0.3	<ul style="list-style-type: none"> <li>Optimum release, anti-adhesion</li> <li>Anti-corrosion</li> <li>Outstanding chemical resistance and toughness</li> </ul>	Molding / Forming Semiconductor Medical
SCUTUM-C	DLC		1~4	400	1800	0.15	<ul style="list-style-type: none"> <li>Anti-adhesive diamond-like carbon</li> <li>Extremely low friction</li> <li>Good for machining light metal</li> <li>PVD+PECVD hybrid process (US Patent)</li> </ul>	Cutting Tool Automobile (piston ring) Biomedical
Pure metal	Accordingly	Accordingly	1~200	Accordingly	Accordingly	Accordingly	<ul style="list-style-type: none"> <li>High thickness coating available</li> <li>Decorative coating</li> </ul>	Multiple Functions Decorative



## Benefits of STAR Series

**1 Stress-Free Operation and Maintenance**  
Switching between batches of coating can be done in just 15 minutes! And with STAR equipment's round cathodes, one operator can change and maintain them with ease.

**2 User-Friendly Interface**  
Designed for a high level of automation with just one touch panel, the STAR series equipment makes running and understanding the machines simple for any operator.

**3 Most Reliable Hardware**  
Our heavy duty machinery can work for you at full capacity for 20 years and still be in top condition! You'll feel the difference that only time can tell!

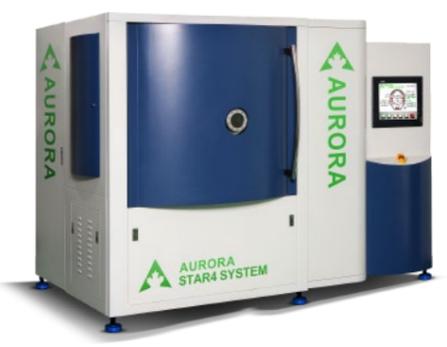
**4 Diagnose Issues Remotely**  
If there is a problem you just can't seem to fix, don't worry! STAR series software allows our service engineers to remotely diagnose any technical or operating issues, anywhere!

**5 Best Money Can Buy**  
With our reliable, durable quality, fast returns on investment and great affordability, we can guarantee the highest Price-Performance Ratio around. We're tough to beat!

## Aurora STAR Series PVD Coating Equipment



STAR 2



STAR 4



STAR 6

Model	STAR 2	STAR 4	STAR 6
<b>Load diameter</b>	300 mm / 11.81"	600 mm / 23.62"	600 mm / 23.62"
<b>Load height</b>	300 mm / 11.81"	550 mm / 21.65"	750 mm / 29.52"
<b>Max Load Weight</b>	200 kg / 400 lb	500 kg / 1,100 lb	600 kg / 1,322 lb
<b>Cathodic Arc Sources</b>	2 sets	4 sets	6 sets
<b>Cycle Time</b>	2-3 hours	3-4 hours	4-5 hours
<b>Foot Print</b>	1,560 x 1,590 mm (61.41" x 62.59")	2,852 x 1,860 mm (112.2" x 73.23")	2,852 x 1,860 mm (112.2" x 73.23")
<b>Applications</b>	• Small batch production • Fast cycle coatings	• High volume tool coatings	• High volume large molds



## Aurora Research Center and Job Shop in Vancouver

Aurora's Vancouver office was established in 2008, and the first coating job shop began production in 2014. Equipped with a STAR4 coating system, we proudly stand as the only professional coating center in the Pacific Northwest. With over 4,000 sq. ft. and a complete coating service operation providing more than 10 coating options, we offer coating services to businesses all over Canada and the United States. As the first and only professional coating center for this region, we are the leaders in coating operations and training, and provide premium quality training facilities for technicians.

Our year-round technical support center is also located within our facility, serving customers via online, telephone, or on-site technical support within 24 hours.

We serve many industries, including Tooling, Biomedical, Aerospace, Marine, and Woodworking clients. Our engineering and research teams here in Vancouver are dedicated to testing and evaluation of new coating applications and developments, and also provide in-depth coating consultations for all our customers.



## Global Business Alliances

We have strong alliances with several other companies and organizations:



### Surftech Corp

Established in 1993, Surftech has over 20 years of dedicated experience providing quality PVD coating to its valued customers. As the largest PVD coating job center in Taiwan, they have extensive knowledge and skills in optimizing the coating process, and provide their customers with reliable products, amazing service and outstanding high performance.

In 2001 Surftech set up their first coating center in Kunshan, Jiangsu, China. Equipped with 4 STAR series PVD coating systems to take on the ever-increasing industry demand, the company provides outstanding coating quality and customer service.

Now, with their third center opening in Vietnam, we can provide the best value, products and services to our customers, beating most major competitors from even the most intensive manufacturing regions of Asia.



### Surface Engineering Research Center (SERC), MingDao University

SERC is a collection of highly praised professors and researches from the fields within Material Engineering. They are committed to the development of surface engineering technology and system integration, including thin film, coatings, plasma, and vacuum technologies. The center's continued discoveries and research into innovative methods help us provide the most advanced PVD technology and application to our customers.



### Daedalus Precision Engineering Co., Ltd.

Located in Changhua, Taiwan, Daedalus is the only professional manufacturer of PVD vacuum coating machines on the island. Over a 15 years lifespan they have delivered more than 40 STAR Series coating units to customers worldwide, and have provided dedicated and comprehensive engineering work that makes our STAR Series PVD coating systems one of the most robust and reliable machines in the industry.

