

Testimony on Economic Growth Agenda for Manufacturing & Aerospace

House Committee on Commerce and Economic Development

Chris Carrigan, Vice President Business Development

February 1, 2019

Chair Marcotte and members of this committee,

For the record my name is Chris Carrigan and I'm the Vice President of Business Development with the statewide Vermont Chamber of Commerce, which represents 1,500 member companies from Bennington to Newport. I also manage the Vermont Chamber's Manufacturing Division, which has a strong focus on aerospace and aviation.

Thank you for taking a look at economic and workforce development. Today I'm going to put forth some history, context and work to date to:

- Transform Vermont into a Supply Chain Hub and build the Aerospace Trade Corridor;
- Strengthen our ties with Québec;
- Develop workforce for manufacturing; and
- Tap new and emerging market opportunities for the State.

Vermont's Aerospace Manufacturing and & Aviation Industry:

To begin, Vermont is home to a thriving and combined \$2 billion aerospace manufacturing and civil aviation industry.

According to the Federal Aviation Agency (FAA), the economic impact of civil aviation alone for Vermont includes:

- **\$1.17** billion in economic output
- **\$298** million in earnings
- **9,505** direct jobs (11,081 direct and indirect jobs)

Civil aviation also represents **2.2%** of Vermont's GDP (**\$704 million**).

Additionally, aerospace manufacturing (**\$1 billion**) is an important part of **Vermont's overall manufacturing economy**, which:

- Supports **32,000** Vermont jobs (**10.4%** of all employment)
- Accounts for about **\$2.8 billion** or **9%** of Vermont's GDP
- Accounts for **\$2.57** billion in exports or nearly **2/3** of all exports.

Manufacturing, furthermore, matters to Vermont for economic development for two important reasons, including an:

1. **Economic Multiplier Impact:** Every **\$1** in manufactured goods generates an estimated **\$1.37** worth of additional economic activity.
2. **Employment Multiplier:** Each manufacturing job supports an additional **1.6 jobs** and each "Advanced Manufacturing" job supports as many as **4.9** other jobs.

For aerospace manufacturing, Vermont is home to industry leaders, such as GE Aviation in Rutland, Collins Aerospace (formerly UTC Aerospace Systems) in Vergennes, KAMAN in Bennington and an established and proven supplier base of small and medium-sized manufacturers with capabilities in the areas of:

- Aircraft maintenance, repair & overhaul;
- Aircraft structures;
- Aircraft airframes and engines;
- Avionics and electronics;
- Fuel management;
- Landing gears;
- Precision machining; and

- Turbomachinery, to name a few.

World-class aircraft Original Equipment Manufacturers (OEMs) from Airbus Americas and Bell Flight to Boeing and Sikorsky all depend on Vermont's aerospace manufacturers to design, build and deliver the finest quality parts, components, products, solutions and services with innovation, speed to market and competitive advantage. The Boeing Company, for example, has a defined supply chain in Vermont with **23** suppliers representing an annual **\$88 million** spend for the company and supporting **2,800** jobs for Vermonters.

Transforming Vermont into a Supply Chain Hub

Recognizing manufacturing as an economic development opportunity for the State, and, responding to the needs of our members for contacts, new business opportunities and contracts, the Vermont Chamber of Commerce developed a supply chain matchmaking program with a focus on aerospace, aviation, defense and space, naval & marine and medical devices.

To date, the Vermont Chamber has conducted **18** supply chain events over the past **10** years and brought large out-of-state buyers and government contractors, pre-qualified suppliers and partners together in a meaningful way and in Vermont.

Our Annual Manufacturing Summit and Trade Show in 2018, for example, featured:

- **120** exhibitors from Vermont, New England and Canada
- **450** B2B Meetings (**112** hours of quality meeting time)
- **20** OEMs, including Boeing, Bell Flight, BAE Systems, Raytheon and Sikorsky
- **30** Canadian companies in support of the **Vermont – Québec Aerospace Trade Corridor** now extend to Connecticut
- Over **700** participants

Tapping Québec Aerospace

Our work also extends across the border to a **\$28 billion** Canadian aerospace industry. A vital contributor to this market is the **\$13.8 billion** Québec aerospace cluster in and around Montreal.

Québec aerospace is the 3rd world capital of aerospace manufacturing after Seattle, Washington and Toulouse, France, where commercial aircraft are all built from the ground up.

Québec aerospace is also home to **204** aerospace companies, a network of **190** small and medium-sized suppliers, a workforce of **41,750** and some of the largest global aerospace OEMs, including Bombardier/Airbus on the A220 series, Bell Flight and Magellan Aerospace. Importantly, most of these Canadian companies source over **50%** of their aerospace parts from the U.S.

Building the Aerospace Trade Corridor

With these two markets in mind, the Vermont Chamber recognized the opportunity to link Vermont's \$2 billion aerospace and aviation industry with Canada and tap Québec aerospace for enhanced, cross-border trade and supply chain integration for our Vermont aerospace manufacturers.

In 2013 the Vermont Chamber signed a Memorandum of Understanding with Aéro Montréal to officially begin building the trade corridor.

Over the past eight years, and, in support of building the Vermont – Québec Aerospace Trade Corridor, the Vermont Chamber's record of work in Québec includes **\$1.1 million** in investment and **2,412** B2B meetings (**603** hours) made possible by the financial support of our members.

The Vermont Chamber has now extended the aerospace trade corridor to Connecticut aerospace, an industry that employs a workforce of **91,500** and is home to aerospace OEMs, including KAMAN, United Technologies Corporation (UTC) and Pratt & Whitney, a UTC subsidiary.

To help connect our participating manufacturers from Vermont, Québec and Connecticut, and, in addition to conducting trusted member referrals and providing

the supply chain matchmaking, the Vermont Chamber has also created an **online New England Manufacturing Directory**.

Aircraft Maintenance as a Global Market Opportunity for Vermont

A key market opportunity for Vermont's aerospace manufacturers regionally, in the U.S. and in Canadian aerospace is the aircraft maintenance, repair and overhaul (MRO) market, which, according to Visiongain, a market research firm, will reach \$100 billion by 2023. MRO includes a range of services and hangar or workshop facilities to small repair companies for specific equipment, parts and components for both commercial and private aircraft.

Equipment and parts related to MRO include, for example, aerostructures, air conditioning, avionics and electronics, blades, cabin interiors, circulation, electrical power, engines (gas turbine), gear boxes, and landing gears.

Tax Exemption Vital for Competitive Advantage

The aviation tax exemption (6%) is vital to Vermont manufacturers and repair operations, which employ between 8 and 50 full-time, highly skilled employees and for which MRO for both commercial and private use constitutes between 50-98% of their business and gross revenues. Importantly, these Vermont companies and Vermont's emerging MRO cluster rely on the aviation sales tax exemption for aircraft and depreciable parts not only to tap the worldwide MRO market opportunity, but to stay competitive in a regional and global marketplace.

Their customers include, but are not limited to:

- Commercial carriers, such as American Airlines, Delta, ExpressJet, JetBlue & Lufthansa
- Commercial aviation MRO supplemental support to OEMs, such as Honeywell, Pratt & Whitney and UTC
- Flight academies and schools
- Freight forwarding and logistics, including FedEx and UPS
- Medical services, including flight ambulance and emergency transport

- Military, including supplemental airlift to the Vermont Air National Guard (VTANG)
- Private charters
- Private owners, operators and aviation enthusiasts

Workforce Development

Regarding workforce, and, to help address Vermont's workforce labor shortage and skills gap, the Vermont Chamber is partnering with Vermont Technical College on the **Find Your Future Workforce** initiative.

This effort matches students and soon-to-be graduates in advanced manufacturing with exhibitor employers at our Annual Manufacturing Summit and Trade Show for jobs and internships.

For 2018 the Vermont Chamber facilitated **26** interviews for **10** Vermont Technical students.

For 2019 the Vermont Chamber will continue to grow and expand this program to help meet the workforce recruitment needs of its manufacturing members.

Additionally, the Vermont Chamber is connecting employers with the Vermont Air National Guard on the Free Tuition Program, which is a workforce recruitment incentive for employers.

Conclusion:

In closing, Vermont has a thriving aerospace manufacturing and aviation industry. As we work to transform Vermont into a Supply Chain Hub, strengthen our ties with Québec and Connecticut and build the Aerospace Trade Corridor, Vermont has several additional emerging market and economic development opportunities to target. These include:

- Tapping the global aerospace maintenance, repair and overhaul (MRO) market, which is projected to reach **\$100 billion** by 2023, by growing Vermont's emerging MRO cluster of FAA certified repair facilities;
- Attracting and recruiting out-of-state, out-of-country aerospace manufacturers to our State and as tenants for the State-owned airports. Recent successful national and foreign direct investment (FDI) examples include:
 - Hildt Aviation in Bennington;
 - BHS Composites in Saint Johnsbury; and
 - Montreal-based PCM Innovations' acquisition of Lucas Industries in Springfield.
- Additionally, the Vermont Chamber is partnering with the Vermont Agency of Commerce and the Vermont Agency of Transportation on H.620/Act 108 regarding the statewide economic development strategy and marketing plan for the State-owned airports; and, lastly,
- Developing and offering specialized training programs to recruit out-of-state workforce to help address Vermont's workforce labor shortage. The Vermont Chamber is in discussions with and working with Boeing on a potential Boeing-certified, training program for Vermont to train pilots, cabin crew and maintenance, repair and overhaul technicians for the aerospace and aviation industry.

Save the Date:

2019 Annual Manufacturing Summit
A Supply Chain Event for Advanced Manufacturing
Thursday, September 26
Champlain Valley Exposition Center
9am – 5pm
www.manufacturedinvt.com

Christopher M. Carrigan
Vermont Chamber of Commerce
Aerospace and Manufacturing Division
(802) 223-0904
ccarrigan@vtchamber.com