



**Cooperation and
Collaboration in Improving a
Nation's National Welding
Capability (NWC) and
Progressing its UN
Sustainable Development
Goals (SDGs)**

**March 2023
Douglas R. Luciani
President & CEO, CWB Group**

Overview



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Who we are:

- The CWB Group (<https://www.cwbgroup.org>) is a Canadian materials joining and allied technology services organization with global reach.
- Has been in existence (previously known as the Canadian Welding Bureau) for 76 years to address issues/concerns around quality/safety of welding in Canada.
- Head office in Ontario, Canada with other Canadian offices in Alberta, Quebec, Manitoba and Nova Scotia. EWI Head Office in Ohio, USA with additional USA locations in New York, and Colorado
- Workforce of approximately 500+ (full and part-time employees/contractors)
- Expanded service domestically and internationally with approximately 12,000+ organizations with 90,000+ active welder qualifications, 100,000+ individual customers and 73,000+ individual members in approximately 60 countries.
- CWB Group Purpose: “To elevate our customers’ success, advance workforce development, foster employee excellence and champion public safety by delivering world-class materials joining & allied technology services.”

Overview (cont.)



We are unique in the fact that we:

- Are a nationally mandated certification organization for companies, products and individuals. (cwb certification)
- Are Canada's only national welding association. (cwb association)
- Develop and deliver our own education programs. (cwb education)
- Have our own ISO Management Systems registrations group. (cwb registration)
- Have our own Welding Consulting service line. (cwb consulting)
- Have our own independent Foundation. (cwb welding foundation)
- Have our own Applied R&D/Advanced Engineering Solution services. (EWI)
- Have programs to improve a country's NWC and SDGs (cwb group)



SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS


SUSTAINABLE DEVELOPMENT GOALS

Supporting the Welding Industry



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Government Priorities	CWB Group Solution
Addressing skilled labour shortage	<ul style="list-style-type: none"> • Training programs aimed at underrepresented populations, post-secondary, etc.
Supporting Internationally-trained welders and Canadian inter-provincial labour mobility	<ul style="list-style-type: none"> • Welder Competency Credential Assessment (WCCA) and Welder Competency Assessment (WCA) and Skills Training offering full-cycle services to internationally trained welders (identify competency and knowledge gaps, provide access to customized micro-credentialling training and certification)
Expanding and upskilling welder training	<ul style="list-style-type: none"> • Training programs and apprenticeships (Introduction to Auto Repair Technician Welding Program, Advanced Pressure Welder Training)

Stakeholder Engagement & Advocacy

Priorities	CWB Group Solution
Stakeholder Engagement and Advocacy	<ul style="list-style-type: none"> • Engage with Canadian government officials and bureaucrats in relevant departments to promote standards, certification, compliance and support for skilled trades via: <ul style="list-style-type: none"> • Meetings • Briefings and correspondence • Interviews for articles, podcasts, etc.

Our Signature Programs (<https://www.cwbweldingfoundation.org>)

Mind Over Metal™ camps and workshops

Women of Steel™ Pre-employment

Secondary Educator Training

Capital Equipment & Consumables Grants

Student Awards

Secondary Program Curriculum Support (online)

Post Secondary Applied Research and Program Support

Simulation Training

CWB WeldSAFE™ Class PPE and Safety Reviews



Women of Steel™

An Introduction To Welding

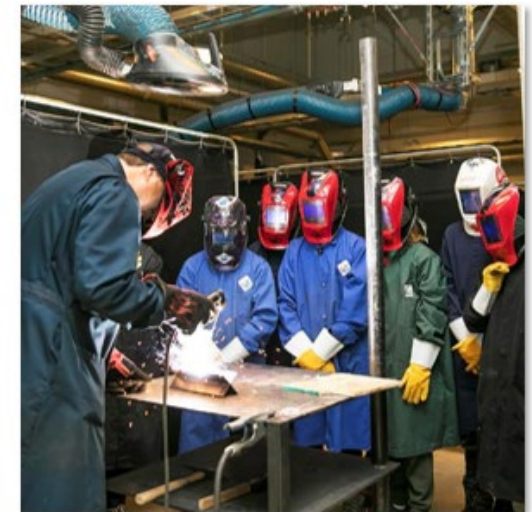
- Introduction to Welding
- Pre-Employment Program
- Ambassador Program
- Women of Inspection (upskilling program)
- Mentorship
- Workplace Inclusivity (as part of the Women of Steel-Forging Forward Program 2022-2025)



Mind Over Metal Programs

Introduction to Welding for Youth and Adults

- Targeted for youth ages 12-17, or to adults with no welding experience
- Project based, usually a 5-day program combining on the tools training with industry presentations
- Focus on pathways to welding and related skilled trades and engineering careers
- FY 2022 -23 the Foundation delivered 41 of these programs across Canada, in English and French





Educator Training

Secondary educator programming – basic to advanced welding education curriculum and techniques offered in partnership with CWB Education and D2L Brightspace

- Hands-on welding skills-based professional development for secondary school technological teachers
- Increases technical as well as career opportunities and pathways knowledge to support students and community
- Creating a stronger base that builds the pipeline of future tradespersons in Canada
- Leads to higher enrollment in post secondary welding and technologies programs as well as supports labour needs of industry and union partners through up-to-date career guidance and skills development

Capital Equipment And Consumables Grants

Supporting secondary student and educator experience with safe, modern and industry approved equipment in safe and modern learning environments

- Annual grants of \$10,000 to \$80,000 per successful applicant Canadian secondary schools , supported by technical advisory services
- In FY2022-23, a total of \$570K invested to upgrade and fit out, with further community co-investment of over \$2M, supporting 35 schools
- Assists technology educators to deliver regional skills desired with industry-appropriate educational experiences, where budgets are constrained



Student Awards And Program Support

Over \$125,000 each year is provided for student and educator support. In addition, the Foundation supports best in class welding engineering programs at the undergraduate and graduate level. We continue to evaluate new opportunities to partner with post-secondary education.

Awards and Bursaries:

- CWB Foundation moderated awards: Joseph Doria and Hugh Krentz Awards for student achievement (National)
- Nicole LeClair Awards (ON)
- John Marinucci Student Award (Mohawk College)
- Secondary class project awards "Forged by Youth"
- Sponsored [Indspire](#) Awards for Indigenous Students
- U Waterloo, U Alberta student awards in Welding Engineering
- Canadian Institute for Steel Construction Research and Education Support
- CWB Association Chapter Awards
- CWB Educators Conference Educator Travel Grants





Secondary Program Curriculum Support

An innovative pathway to support students and teachers by providing world-class content to generate excitement around welding.

- Leveraging CWB Education's best in-class content for industry/post-secondary institutions, we provide quality content suitable for high school students and teachers
- Newly developed online lessons, presentations and knowledge check questions will power high school programs
- Customized course content specific to high school learners

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Simulation Training

National outreach program focused on awareness building and 'try a trade' welding, utilizing technology for efficiency and accessibility in remote and rural areas.

- Match Foundation simulator assets with "Trusted Partners" for regional impact across schools and community
- Trusted partnerships include tech educators, district technology and innovation leads, administrators, Chapter members, and industry. All have vested interest in success of the program and commit to metrics for engagement and KPI's.



CWB WeldSAFE™ Class PPE and Safety Reviews

A new national grant to support the growing need for updated personal protection equipment (PPE). CWB WeldSAFE grants to secondary schools also provide enhanced safety resources to improve health and safety initiatives, awareness and education on the proper use and fit of safety gear in educational and workplace settings.

Each CWB WeldSAFE custom safety kit includes:

- 3M™ Speedglas™ Carry Bag
- 3M™ Speedglas™ Welding Beanie
- 3M™ Speedglas™ Welding Helmet
- 3M™ E-A-R™ Classic Earplugs
- 3M™ Safety Glasses
- 3M™ Particulate Welding Respirator
- Welding Jackets
- Welding Gloves
- Leather Spats foot protection



CWB Welding Salary Report

Canadian Welding Industry Employment & Salary Report



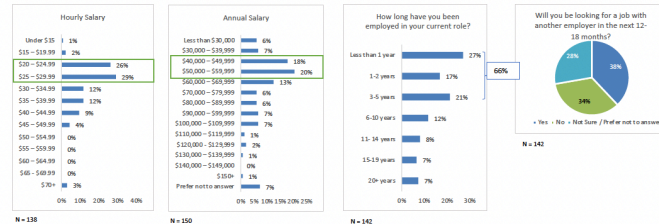
This document provides information on the employment landscape of welding professionals in Canada. Furthermore, it gives insight into different welding career paths by examining welding professionals' employment and salary profiles.



Welder – Employment & Salary

- The majority (96%) of welders work on a full-time, and permanent basis (86%)
- A large majority (92%) are hourly employees, while 8% are salaried
- 22% belong to a union and 23% receive a bonus or other financial incentive
- 66% have been employed in their current role for 5 years or less, with 26% being employed for less than one year
- About 39% plan to look for another job within the next 12-18 months
- 55% of welders report an hourly pay between \$20 to under \$30, and 38% report an annual salary between \$40,000 to under \$60,000

Employment Type	Percent
Full time	96%
Permanent	86%
Salaried	8%
Hourly	92%
Receives Bonus (Yes)	23%
Belong to union (Yes)	22%



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CWB Industry Report

CWB GROUP WELDING INDUSTRY REPORT 2022



Industry Report 2022



Current Welding Force Characteristics:

The average age of a male welder is 39 and the average female welder is 35. Over the past decade, this number generally remained consistent in this range.

Males continue to dominate the industry, representing 96% of welders. However, the number of female welders has an annual growth of 9.9% between 2011-2020.

% Welders by gender ➤ **4%**
(2012-2021 average) **96%**

39
Average age of welder reported in 2021

39 ➤
Average age of a male welder

35 ➤
Average age of a female welder



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The CWB Group Industry Report demonstrates our ongoing commitment to providing professional services that aid in the safety and quality of welding and the success of the Canadian Welding and Joining industry.

Future Welding Projections:

The welding sector's role in the global economy is very significant. It is among the highest-paying skilled trades in the country and one of the most in demand occupations as well. Therefore, challenges surrounding the occupation need to be tackled to keep up with the future demand for welders.

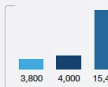
The industry will continue to encounter a shortage of welders as baby boomers head towards retirement.

It is anticipated that over the period of 2019-2028, the number of job openings is expected to reach approximately 23,200 while the number of job seekers (school leavers, immigration) is expected to total 25,000. As job openings and job seekers are projected to be relatively similar over the 2019-2028 period, the labour shortage conditions seen in recent years are expected to continue over the projection period.

Projection of Cumulative Job Openings & Job Seekers (2019-2028)

➤ **23,200**
Job Openings

➤ **25,000**
Job Seekers



■ Most job seekers are expected to come from the school system over the projection period, mostly from apprenticeship programs.

■ Employment growth and replacements are projected to account for most job openings.

■ Workers in this occupational group are still generally younger than the average and typically still retire at a later age than those in other occupations, which results in a substantially lower retirement rate compared to the average rate for all occupations.

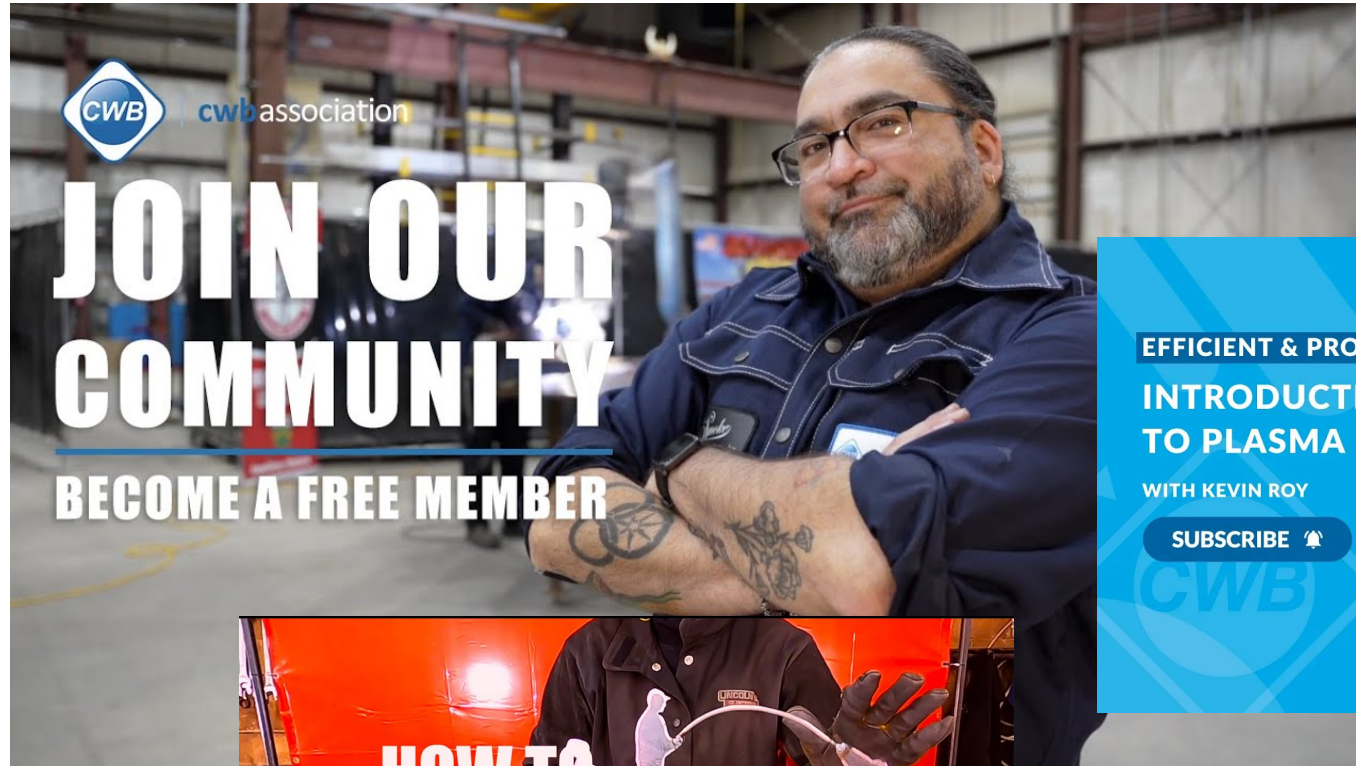
Note: Projections were completed in 2019.

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Video Content

The CWB Group produces original thought leadership video content dedicated to educating the industry and building awareness with our clients.



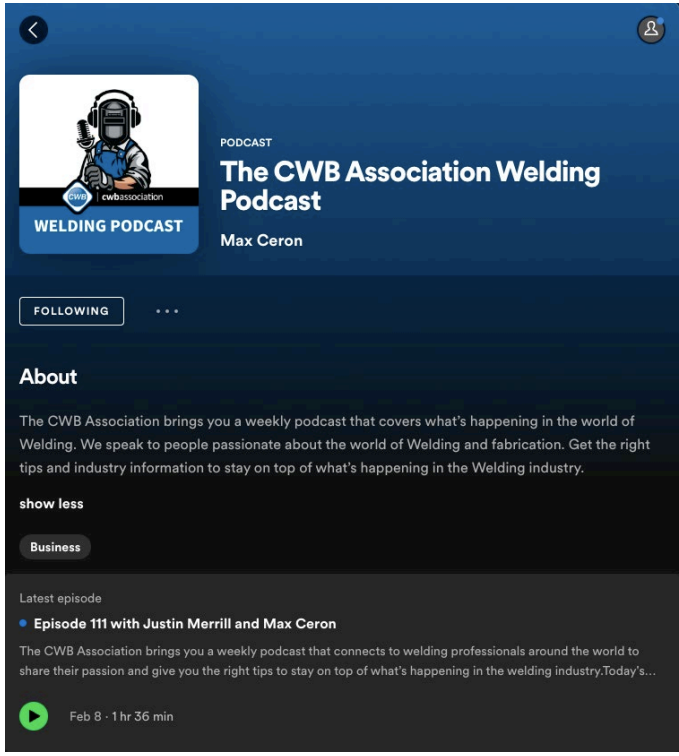
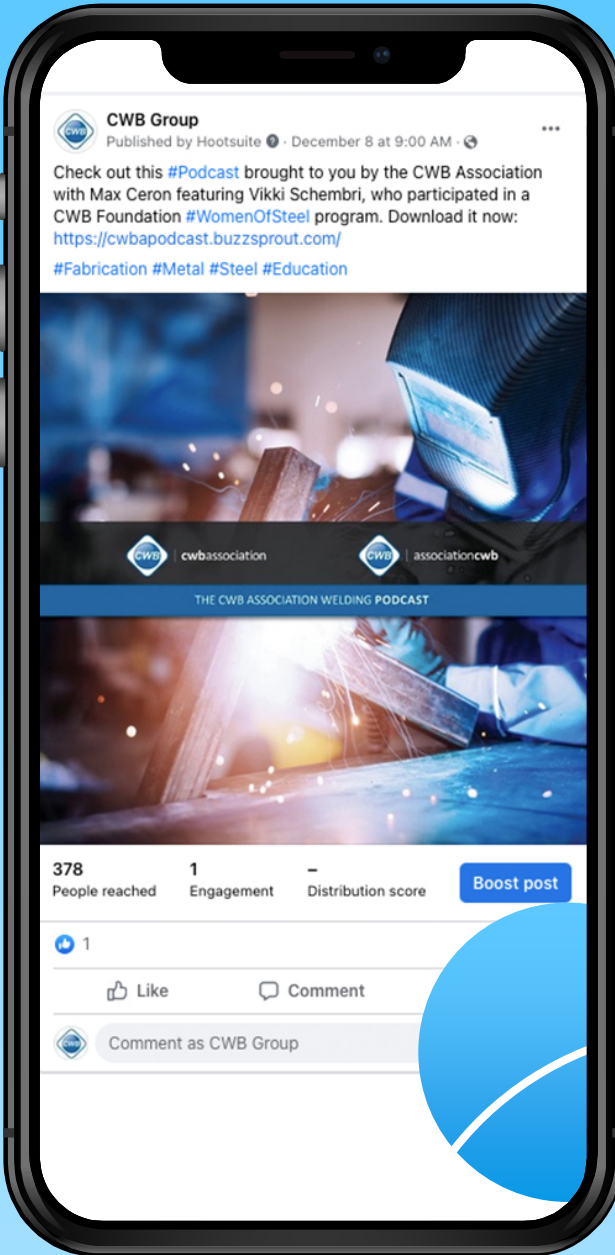
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CWBA Podcast

The CWB Association brings you a weekly podcast that covers what's happening in the world of welding. We speak to people passionate about the world of welding and fabrication.

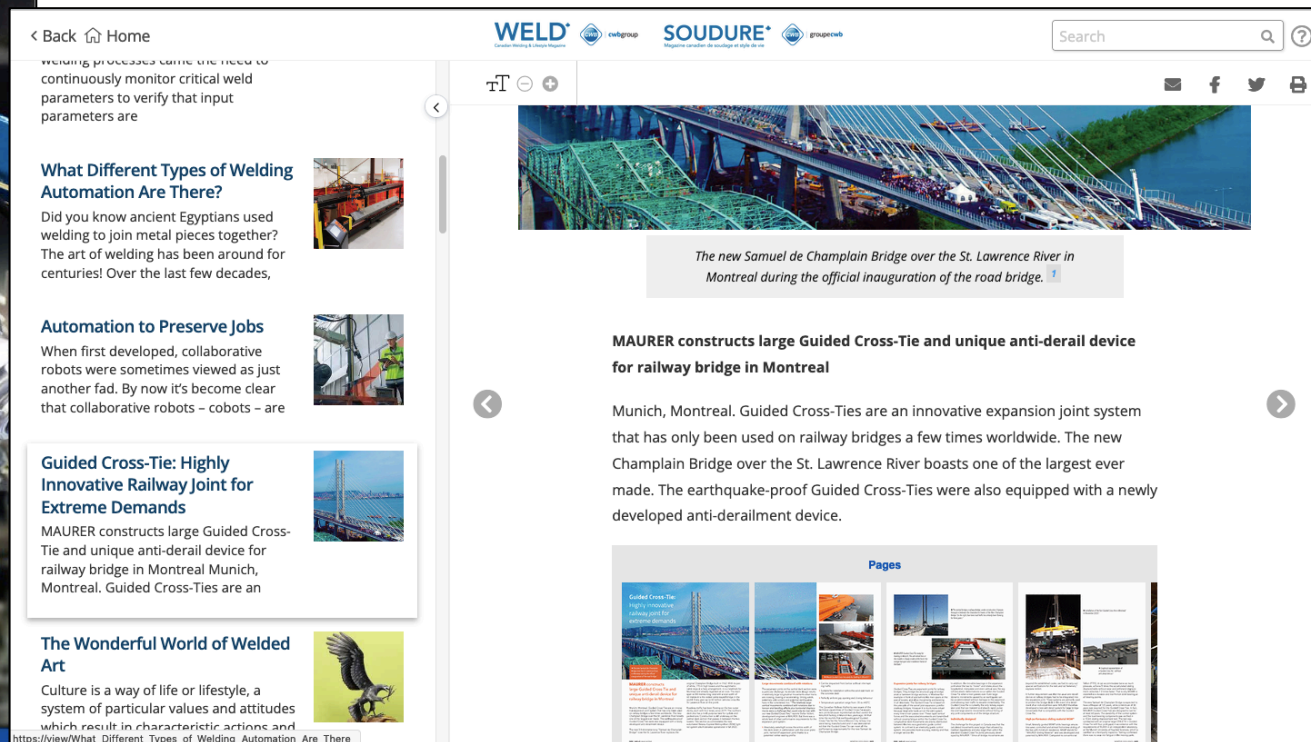
52 – Podcasts in 2022.
Available in audio and video



WELD Magazine

WELD is the leading Canadian technical welding magazine within our industry, with eighteen years behind us. We strive to bring relevant, informative content that highlights welding practices, professionals, education, news, research, and lifestyle.

Bilingual issues Annually, available in Print and Digitally
Weldmagazine.com



Events

CWB brings together people from many industries, such as educators, decision-makers, welders, influencers, suppliers and consultants. Our conferences and events are an excellent opportunity to discuss issues around current trends and advances, welding and joining, health and safety, and so much more.

- Welding Engineer Forum – December 6-7, 2022
- Welding Industry Day – Feb 15, 2023
- Educators Conference – June 6-8, 2023
- CanWeld Conference – October 18-19, 2023



Partnerships

CWB works with many individuals and companies in countries around the world. For example, we have worked with IIS Group (Italian Institute of Welding), Southern African Institute of Welding (SAIW) in addition to several individuals in countries in Africa and other parts of the world to help bring value to their respective welding and joining industry

In addition, our **CWB individual membership is free to anyone in the world**. Some benefits include access through the members portal to free reports, free and paid online courses, conference research papers, educational and conference videos, members only events, podcasts and the quarterly digital WELD journal publication.

CANWELD
CONFERENCE 2022
METAL FABRICATING - WELDING - FINISHING



WELDING PODCAST

Potential Cooperation and Collaboration

- With an individual African country, regional approach or continental approach with TWF, governments, industry and aid agencies
- Online/hybrid/In-person training programs for welders to welding engineers
- Available Programs (In person, hybrid or remote delivery):
 - Company certification
 - Welding personnel certification/qualification
 - Welder Testing/Certification to international and regional standards
 - Welding Inspector, Welding Supervisor and Welding Engineer certifications
- Advice on setting up similar CWB Signature Programs, training centres, preparing industry surveys and reports
- Technology transfer of appropriate and advanced technologies
- Support in establishing IIW ANB

