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**RUTE FERRAZ**

Chief Executive of the;  
European Welding Federation - EWF  
International Authorisation Board - IAB  
International Institute of Welding - IIW

**Q1. You are highly recognized for your extensive contribution towards welding segment. Please introduce a more about you?**

I have been working in ISQ- Portuguese Welding and Quality Institute for more than 30 years in the Training Department where welding and related technologies are the main areas of activity both in Portugal and overseas in Angola, Mozambique, Cuba, Tunisia, Argelia, Albania, etc. As well over those years ISQ Training Department had a very relevant activity in Research & Development European Projects in the welding and related technologies training and qualification areas.

I was involved in the setting up of EWF – European Welding Federation in 1992 where ISQ's bid to host EWF headquarters won. I was the one preparing the bid and presenting it to the jury.

I have been involved since the beginning in the development of the EWF Harmonised Qualification and Certification Systems for Welding Personnel and Manufacturing Companies.

**Q2. What made you choose welding as a career, which is a highly male dominated segment?**

I have always been interested in technical subjects and very early it was clear to me that Mechanical Engineering was what I wanted to study. Then welding came as one of the subjects that most interested me, though not the only one.

When I started my professional life in manufacturing companies, welding was always present until I was offered a position in ISQ more dedicated to welding qualification activities. The

challenge was interesting, and I decided to go for it, and I am certainly happy with my decision.

**Q3. Have you anytime faced gender discrimination on site, as the stream is male dominated?**

Never experienced any discrimination.

**Q4. Currently, you are the Chief Executive of European Federation for Welding, Joining and Cutting (EWF). Can you please elaborate us more on EWF and your role with the institute?**

The European Federation for Welding, Joining and Cutting (EWF) manages International Systems for Training, Qualification and Certification for manufacturing areas of both personnel and companies in Quality, Environment, Health, and Safety.

EWF was founded in 1992 and nowadays has 28 European member countries and 2 Observer Members from outside Europe, represented by their national welding societies.

EWF and its member organizations have developed international harmonised system for education, training, and qualification in the field of joining technologies and additive manufacturing. It was a pioneer organization developing the first harmonized system embracing all the European countries for the qualification of personnel for a wide range of levels both in welding, related technologies, additive manufacturing, and inspection. With the expertise of the welding system, EWF has created the first additive Manufacturing - AM international harmonised system.

EWF licensed its Qualification System to IIW in 2000 and since then a combined EWF/IIW System had been

offered in 45 countries worldwide.

The importance of these systems is recognised by ISO and CEN, being EWF a recognized stakeholder of ISO and CEN.

EWF Personnel Certification Systems was developed with the aim of assessing and recognizing job competences in industrial manufacturing as an example in Welding Coordination, Plastics Welder and Welder, Welding Operators and Brazers.

EWF created an Integrated Manufacturers Certification System. This integrated system complies with ISO 3834 – Welding Quality requirements (that is in place since 1998) ISO 14001 - Environment and Health and Safety (these two systems are in place since 2000). Currently the Manufacturers Certification System has been adopted by IIW and it is used internationally, only covering the Quality field.

EWF has been involved in the preparation, participation and management of vocational, educational, training and RTD (Research & Technical Development) projects as a way of driving forward the welding and joining community.

EWF developed support tools for the members, in particularly related to the implementation of new standards, translation of welding terminology and training materials.

As I referred to previously, I was involved in the setting up of EWF and since 2010 I am the Chief Executive of EWF with the association's general management responsibilities, including being part of EWF Board of Directors.

Now EWF staff amounts top more than 25 people involved in the different areas of activity that include



the management of the International Systems for Training, Qualification and Certification for manufacturing areas of both personnel and companies in Quality, Environment, Health, and Safety and of the vocational, educational, training and RTD (Research & Technical Development) projects.

**Q5. What plans have you designed for further enhancement of the association? Any recent projects?**

There are several projects moving forward aiming at developing International Systems for Training, Qualification and Certification for other manufacturing areas like, Defence, Aerospace. Involvement in vocational, educational, training and RTD (Research & Technical Development) projects linked with the digitalization of manufacturing, Artificial Intelligence, Circular Economy as examples.

**Q6. Please share some of the interesting anecdotes while in the role as a Chief Executive of EWF?**

I really can't remember any specific ones. But we certainly have very good times and memories of these 30 years of EWF activity. More than a network of welding organisations, we are welding professionals cooperating with each other and very good friends!

**Q7. Can you please discuss with us more on the role of EWF for the upliftment of welding industry, especially in Portugal?**

EWF has been always working towards providing world class, European focused, value-added products and support services to its members and their communities in the field of joining, welding, Additive Manufacturing,

and other manufacturing related technologies on a European and International basis. Ensuring European, and International, Manufacturing sectors have access to the required Qualified Personnel.

As part of the industry 4.0, Additive Manufacturing (AM) has been identified by the European Commission as one of the key enabling technologies to improve European industrial competitiveness given its ability for rapid, delocalized and flexible manufacturing. With the fact of becoming more important at an industrial level allowing autonomy in the manufacture of parts and components, reducing production costs, associated with the location where the components are created, also decreasing transportation and assembly costs, since additive manufacturing allows the creation of parts without the need for assembly.

EWF developed recently the first International Additive Manufacturing Qualification System – IAMQS providing an international system for qualification of professionals in Additive Manufacturing covering all levels & processes.

ISQ – Instituto de Soldadura e Qualidade as the Portuguese member of EWF has used the products and services provided by EWF to offer Portuguese manufacturers the required qualification for joining and welding personnel, through its own ISQ Academy and by the network of authorised training centres covering the Portuguese territory.

**Q8. The institute is constantly working to develop the qualification and certification system. Elaborate.**

EWF has two qualification councils and two industrial councils that work

in cooperation to develop qualification and certification systems in joining and additive manufacturing that answer to market needs including the technological developments in this fields. Also, the coordination and participation in several different Erasmus + and R&D European Collaboration projects is very relevant to feeding the review and development of the EWF and EWF-IIW qualification and certification systems.

**Q9. What type of international standards for welding quality management are been practiced in Portugal?**

In Portugal mainly EN 1090 & ISO 3834.

**Q10. EWF's role towards Welders Skill Development?**

The international welder qualification system developed by EWF enables a non-experienced worker to get the necessary skills and knowledge to become a qualified welder according to the corresponding standards. The system has been developed with the input from vocational training organizations worldwide and as well from industry ensuring the required skills are considered.

New technologies like simulation and augmented reality are being used in training making it more attractive to young people. EWF also has a welders certification system that covers the different relevant welder's qualification standards.

**Q11. What is your say on the current welding market scenario globally and in Portugal? How is the demand and supply scenario?**

Already for several years it has been





identified that the lack of welders is affecting the industrial countries in a very significant way. Portugal is not exception and the need for qualified welders is evident.

Particularly in Portugal the lack of manufacturing technical qualified people is very relevant. It includes other levels of welding technicians like Inspectors and Engineers. People getting qualifications in that field are immediately recruited by industry even before they finish their qualification.

#### **Q12. What is the country's effort towards encouraging welding as a career?**

Mainly by introducing new technologies in training making it more attractive to young people and promoting these careers as ones that have an unemployment rate of 0%, are better paid and are no longer dirty and not recognized but instead they are "Cool, Clean and Clever". EWF promoted such a campaign at European level some years ago trying to get more young people attracted to welding. We would say that it was positive but governments and industry at European level and International must persist in implementing continuously other actions to keep attracting young people to a welding career.

#### **Q13. What new technologies have been introduced in Portugal, especially when welding is concern?**

Future welding technology trends are slowly moving from traditional metals, techniques, and manual welding to advanced arc welding, automated welding, and the latest metals and alloys.

Portugal is moving forward to this

trend by introducing robot, mechanized, orbital welding. Collaboration robots designed to assist human welders in the welding process and automation and artificial intelligence are being introduced.

These help to overcome the shortage of welders.

#### **Q14. What major challenges do the welding industry in Portugal faces? What can be the ways to resolve the same?**

Very much linked to the lack of offers of qualified people which has been referred to in question 13.

The new technologies being introduced require qualified technicians that are also difficult to find.

Making this qualification attractive to young people is the big challenge welding industry faces worldwide and Portugal is not an exception.

Tailor made training, use of new technologies in training, virtual/augmented reality, having a Clean and Safe Welding environment are key features to win this challenge.

#### **Q15. Safety in Welding is highly important. What is the institute's role towards boosting safety?**

All EWF qualification systems have a special subject dedicated to safety in welding. We have a cooperation with the European Welding Association - EWA specifically for this subject. EWA experts give input to our qualification guidelines' subjects in Safety in Welding and EWF is a partner of Healthy Workplaces Initiative of EU.

#### **Q16. Your biggest achievement so far?**

Being able to keep EWF as a key

player in international qualifications at European level and keeping the cooperation with IIW-International Institute of Welding.

Having my replacement as EWF Chief Executive prepared.

#### **Q17. What are your future plans?**

Keep innovation and development of new areas of activity in EWF always aiming at better servicing our members, community, and staff.

Growing use of IAMQS – International Additive Manufacturing Qualification System.

Leveraging the international use of EWF qualification and certification systems outside Europe.

Finalize my replacement as EWF Chief Executive.

#### **Q18. Closing note?**

Over the years, welding technology has evolved significantly, and the future of welding is bright, with continued advancements in technology and practices aimed at improving safety, quality, and sustainability.

New welding technologies, such as automation, robotics, and the use of data and analytics, have made the welding industry safer and more productive. Additionally, new welding technologies, such as hybrid welding, additive manufacturing, or other methods, are opening new possibilities in welding applications and joining advanced materials.

The challenge is here and hopefully in the next few years I will be able to transfer my enthusiasm, commitment, and happiness to the next generation EWF's leader and team that are certainly much more prepared and capable of facing this challenge!

