



worldskills  
Germany

**WORLDSKILLS SHANGHAI**  
**12.-17. OCTOBER 2022**

**SKILL 55 WATER TECHNOLOGY**

SKILL FOR WATER SUPPLY AND WASTEWATER  
TREATMENT FOR MUNICIPALITIES AND INDUSTRIES





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# WHAT IS WORLDSKILLS?

Individual and societal change is central to what we do.

WorldSkills is a movement. We are a group of people and organizations that together advance the shared social objective of increasing the provision of skills. Our Member organizations cover more than two-thirds of the world's population. Skills change the lives of young people around the globe. They build self-esteem and release potential. Skills create opportunities and connect communities. They are the foundation of economic progress and the building blocks of our world.

WorldSkills and its Members help young people who want to change their lives, and the fortunes of their communities and societies.

Our skills competitions measure excellence, celebrate Champions, and encourage hundreds of thousands of young people to turn their passions into a profession.

Our mission is relevant everywhere — whether you are from a G20 country, or a developing economy.

For more information: [www.worldskills.org](http://www.worldskills.org)

# OUR WATER OUR LIFE

Water is one of the most crucial resources we need in our life. Safe drinking water has always been one of the primary requirements for healthy and sustainable human life. However, World Health Organization (WHO) reported that 39% of the world's population or over 2.6 billion people living without improved sanitation facilities, and 884 million people do not have access to safe drinking water (WHO, 2002)[1].

The competition of water technology at Worldskills is to promote the awareness about the importance of wa-

ter and to conserve the water. Water technology helps to maintain the optimum environmental standards while managing consistent and safe supply of water, and the treatment and recycling of the wastewater. The competition includes the maintenance of critical equipment and processes in water or wastewater treatment plants and the networks.

[1] WHO 2002 The World Health Report 2002 – Reducing Risks, Promoting Healthy Life. Geneva, World Health Organization, Geneva.



# WHY ARE SKILL COMPETITIONS SO IMPORTANT?



## Young people are at the heart of everything we do

Young people are the beneficiaries of our work, the heroes of our stories of skills excellence, and our default audience.

All Competitors at a WorldSkills Competition are Champions. Just to reach this point they have pursued an arduous journey, from discovering a skill to learning that skill at work or at college. They then progress through local, regional, and national skills competitions to compete for global glory.

These Champions are also the authentic voice of youth in the skills debate. Their experiences inform discussions on a range of global challenges. They regularly address audiences that include decision makers around the world, whether it is at our Conference or other international and national events.

They are supported by dedicated volunteers who mentor and help them on their skills journey.



# PROFESSIONS IN WATER TECHNOLOGY

## What do water technicians do?

Water technicians monitor, assess, maintain and repair water infrastructure - infrastructure that serves people, industry, agriculture, ecology and energy production. Water technicians also prevent urban and rural areas from being flooded. They monitor water and solve problems in emergencies such as floods, droughts and water contamination.

## Where do water technicians operate?

Water technicians operate water facilities and water supply systems. They carry out domestic connections for water supply and sewage disposal.

They also work in sewers, sewer systems, wastewater treatment plants and sludge treatment plants.

They may work for industrial and agricultural water users to ensure that water is produced in the quality and quantity needed and that it is returned to nature in good quality.

## What do water technicians need to know?

Water technicians need to understand ecological systems, especially the water cycle. They must have mechanical, biological and chemical skills to ensure proper water and wastewater treatment. They must also have interpersonal skills such as communication, teamwork and stress tolerance.

## What are the responsibilities of water technicians?

Water technicians are able to maintain pumps, repair water leaks and water meters. They conduct daily tasks such as measuring water flow and water quality. They also evaluate control systems and perform standardized electrical repairs. They are able to handle measuring devices such as sensors and photometers.

Additionally, water technicians are trained for emergency situations such as unexpected pollution, rainwater, floods and droughts.



# Shanghai – HOST OF THE 46TH WORLDSKILLS COMPETITION

Long known as the “Pearl of the Orient”, Shanghai combines a rich history with a modern and fashionable international metropolis. A major Asian-Pacific transport hub with excellent connectivity, Shanghai is the leading city in the Yangtze River Delta. It is one of the most open cities in China, with 182 countries and regions investing in Shanghai, and 670 regional headquarters of multinational corporations located there.

WorldSkills Shanghai 2022 will be held from 12.-17. October. More than 1,300 Competitors from over 60 WorldSkills Member countries and regions will compete in 56 skills.

WorldSkills Conference 2022, held on 13.-14. October, will attract over 1000 educators, ministers, government officials, leaders of business and industry, and youth together to share best practice and learn about global trends and issues found in Vocational Education and Training (VET), skills demand, skills of the future as well as skills excellence and development.







## THE COMPETITION TASKS

Water technicians operate our water facilities and supply systems. They are able to maintain pumps, repair water leaks and water meters. They do day-to-day tasks, such as measuring water flow and quality. They can also evaluate control systems and perform standardized electrical repairs.

Accordingly, for the water technology competition, we always implement different modules and exercises to test these skills.

We divide the competition into four modules: Laboratory/ Process control and automation/ Maintenance/ Report writing. The modules and exercises mimic the daily routines carried out in municipal or industrial wastewater treatment plants. Routines such as daily checks, regular water quality measurements, chemical and biological analyses, parameterization of process control with emphasis on troubleshooting, maintenance and control of various equipment such as pumps, valves and sensors are all integrated in our competition.



## A LOOK BACK WORLDSKILLS Kazan 2019

In Russia, eleven nations took part in the „Water Technology“ skill from 22 to 27 August 2019. A total of more than 1,350 young people from around 60 countries competed in 56 different disciplines.

In our Skill, the gold medal went to China and India for almost equal points, bronze to Singapore. Their local experts coached all participants prior to the competition.

“We have extremely engaged experts for our national competitions for our skilled workers and Universities for the high level competition at the WorldSkills”, says Rüdiger Heidebrecht, and is proud that Germany managed to support the implementation of

the new challenge so dispositive. “Without the voluntary helpers and the active support of the DWA-member Festo, this would not have been possible”, he adds. The collaboration between DWA and Festo has its origins with the WorldSkills Leipzig in 2013.

Back then, German trainees from various cities introduced the profession “Water Supply Engineering Technician” and “Sewage Engineering Technician” to the WorldSkills community. On an international level, these professions merged into the competition “Water Technology”. Festo also participated in the WorldSkills 2015 in Brazil.





# You got interested?

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