



worldskills

The technicians' OLYMPICS

WorldSkills aims to raise standards of all trades - including heavy vehicle technicians - by running UK and international competitions.

Winning is the goal but not the point, reports Toby Clark

Mark McAdams is officially one of the UK's best young truck technicians. McAdams (pictured, near right) won the gold medal in the heavy vehicle technology category at the WorldSkills UK competition in December, beating five others. All (pictured below right) had battled through preliminary rounds to get to the final, held at Cardiff and Vale College in Wales. McAdams, an apprentice with Fife Council, said: "I'm really pleased to have won - the competition was really tough, but to win a UK-wide competition like this is a real confidence boost."

Richard Hutchins, the IMI's skills competitions manager, explains that IMI is the WorldSkills UK organising partner for all of the automotive skills, so it runs the automotive body repair, automotive refinishing, automotive technology (car technicians) and heavy vehicle technology competitions.

He states: "The entries are open to anyone who is currently studying towards a Level 3 qualification, whether it's a full-time qualification in college or an apprenticeship - or if you finished Level 3 less than a year ago. And we get a good cross-section of full-time students, those from independent garages and from dealerships." (Further guidance for contestants is available via www.is.gd/kokeji.)

Martin MacKenzie, a lecturer in the mechanical and automotive engineering department of Fife College in Glenrothes, put McAdams forward for the WorldSkills UK competition: "I've been involved with WorldSkills for six or seven years now, and Mark is our second gold medal winner."

Yet it's a small operation: "There are five staff in the automotive department. We don't have a lot of heavy vehicle students here, so it's a surprise that we do so well." The college's first winner was also a Fife Council apprentice, and again that's remarkable: the council only recruits around three apprentices a year. The four-year apprenticeship involves one day a week on release to Fife College.

GETTING INVOLVED

"The students tend not to get involved with WorldSkills until their third year," says MacKenzie, "because some of the tasks involve pretty high-end diagnostic work. Until then, they don't have the underlying knowledge base and practical skills." McAdams first

competed last year, winning bronze. However, MacKenzie reckons that competition didn't suit him as well: "It was all online assessments; this year he had a chance to compete on the practical side."

What's the secret to churning out winners? "It's difficult to get students interested," admits MacKenzie, "but the minute they've competed once, they are keen to do it again. From a CV perspective, competing, getting to the finals or winning is very good," he says.



“The top six go forward to the national final. This is usually held at the NEC; 68 competitions under one roof – a massive, fantastic event. We get 120,000 visitors over the course of a week...”

Richard Hutchins

Sample questions

These are sample questions from the heavy vehicle engineering 'passive test', which is the first stage of the WorldSkills UK competition.

- 1 What effect would a partially open thermostat have?
 - a. Engine will overheat at high speeds
 - b. Engine will overheat at low speeds
 - c. Engine will run cold
 - d. No effect
- 2 Which one of the following statements is correct?
 - a. A propshaft only requires one universal joint to allow for suspension movement
 - b. A four-wheel-drive vehicle requires at least four differentials to prevent transmission tie-up when the vehicle is driven over hard surfaces
 - c. The purpose of the final drive is to transmit the drive through 90°
 - d. The inner road wheel will travel a greater distance when a vehicle is cornering
- 3 What measuring instrument would you use to measure crankshaft end float?
 - a. 30mm steel ruler
 - b. Micrometer
 - c. Dial test indicator (DTI)
 - d. Vernier Gauge
- 4 Relays can be found in many ancillary vehicle equipment circuits. What is a relay?
 - a. An electro-magnetic switch
 - b. A thermo-electrical switch
 - c. A type of transistor
 - d. A one-way electrical valve

In other automotive disciplines, some of this year's UK finalists will get to train with Squad UK for the 2024 world event in Lyon. Meanwhile, other competitions open to heavy vehicle technology students include the Euroskills event, which took place in Graz, Austria in 2021.

TIPS

So what are Hutchins and the judges – from industry, from sponsors and from colleges – looking for from the winners? “Time management, and how people work under pressure. Obviously, they must have very good technical skills, but we're looking for the ability to work their way through a problem. We introduce multi-layered problems, because we are trying to find excellence.”

When it comes to the WorldSkills practical, says MacKenzie, “we know roughly what kind of task they'll be up against. It's just a case of going through the diagnostic processes, and trying to instil in them a methodical fault-finding routine. And refreshing their memory of certain tools and diagnostic equipment.”

It's not just about raw technical ability; ‘soft skills’ are being examined, too. MacKenzie describes these as “the way they go about the job and communicate with the people assessing them: are they asking the relevant questions?”

Simply attending the final helps the students' development, MacKenzie adds: “They are young, and that experience of travelling and meeting people from over the country certainly helps with their communications skills.”

The last word goes to McAdams himself: “The tasks in the final were challenging, but it was fun to get stuck into diagnosing and fixing all the different faults that the judges had come up with.

“I knew I had the experience through my college course and my work; it was just a matter of applying the knowledge I had to each one.” **TE**

“What we teach here at the college, and the extra practical training and coaching we give them, obviously helps. The competition starts with a round of online test questions, and we do our best to give them practice at that.”

Richard Hutchins explains the application process: “The registration is always an online process. The employer or the college can nominate the student on the WorldSkills website [see www.is.gd/muruco], then the nominee fills in their bit and they're registered.” This year's deadline for registration is 14 May.

“Then we have a passive test – a 30-question online quiz. In the truck competition, the top 18 students go through to the national qualifiers.

“This year, COVID permitting, we are going to have the national qualifiers in MAN's training centre in Swindon. The top six go forward to the national final. This is usually held at the NEC; 68 competitions under one roof – a

massive, fantastic event. We get 120,000 visitors over the course of a week, so you can see why they cancelled it for 2021.” Instead, says Hutchins, it used Cardiff and Vale College, which reportedly worked very well.

In October this year, Shanghai will host the 46th WorldSkills international event (2019 contestant pictured above). National squads compete in dozens of disciplines, from hairdressing to cabinet making and mobile robotics – but sadly truck technicians are not included.

WHY IT MATTERS

Phil Lloyd, head of engineering policy at Logistics UK, says: “Initiatives such as the WorldSkills heavy vehicle technology competition are valuable to raise awareness of career opportunities available in the profession. 920 heavy vehicle technician apprenticeships started in England in 2020-21, compared to 593 in 2017-18.”