

# ICT Skills Survey shows that 4IR is still waiting in the wings

Wits University's Joburg Centre for Software Engineering (JCSE) in partnership with the Institute of Information Technology Professionals South Africa (IITPSA), have released their findings of a survey of skills trends in the South African ICT sector. This is the tenth edition of the JCSE's Skills Survey.



Professor Barry Dwolatzky, director of the JCSE.

The survey sketches a mixed future for the ICT landscape in South Africa should current trends persist.

“Although many stakeholder groups are making concerted efforts to improve the competency and employability of young people through some excellent initiatives, the results tend to be counted in terms of hundreds or maybe thousands of candidates when what is needed is opportunities for tens or even hundreds of thousands in the digital economy,” says Professor Barry Dwolatzky, director of the JCSE.

With the aim of identifying current ICT skills priorities and gaps to assist business leaders and policymakers to develop strategies for growing and retaining digital skills, this year's survey report also calls for urgent coordination between public and private sector activities, so that there is a clear relationship between forecasted skills needs and the pipeline to fill those needs.

This is particularly true for South Africa's stated 4IR ambitions, as underpinned by the recent appointment of a Presidential

Commission on Fourth Industrial Revolution and the launch of the 4IRSA initiative.

“4IR is used, in South Africa at least, as a catchphrase referring to all aspects of digital adoption and transformation, only some of which relate to cutting-edge ‘revolutionary’ innovations. Much of what is spoken and written about in relation to 4IR is part of an ongoing process of evolutionary digital transformation,” notes Dwolatzky.

## Skills priority

The 2019 results show Information Security as a leading skills priority followed by a cluster of second-level priorities made up of Big Data/Data Analytics, Software as a Service/Cloud Computing, Artificial Intelligence and Application Development.

“Once again the survey has highlighted the poor state of education in South Africa and in particular the very low number of learners achieving competence in STEM subjects. There are many initiatives attempting to address this issue, but they tend to be in relatively small pockets and are not resolving the underlying lack of appropriate curriculum, relevant teaching materials and skilled teachers,” says Dwolatzky.

“One disturbing trend given South Africa’s high unemployment figures, particularly among the youth, is the dramatic rise in employers recruiting overseas. This is unfortunate as it shows South Africa is not making inroads into the opportunity to skill and employ locally. In addition, companies tend to train for basic or entry-level skills as opposed to the skills required for 4IR,” adds Dwolatzky.

He notes that at a more foundational level, several of the SETAs have highlighted the problems in the education pipeline, where South Africa is (so far) tackling the critical need for a vast improvement in curricula for STEM subjects and in learning methodologies in only fits and starts.

“On the positive side, survey respondents were asked a new question this year – do they feel a responsibility to assist their employees to reskill to meet the challenges of the new era of digitalisation? To which the answer was an overwhelming ‘yes’. The common thread is the urgent and persistent need to raise the game in the education pipeline and it is incumbent on the private sector to drive the required changes through partnership with government and expansion of the many initiatives taking place.”

The 2019 report has once again emphasised that the average South African ICT practitioner continues to perform multiple task sets, with only a few identifying their role as a specialist in nature.

Dwolatzky says this is a red flag as it is unlikely a practitioner can maintain focus on specific objectives while juggling several major responsibilities all at once. This ongoing trend also leads to over-dependence on the individual concerned, who may be perceived as irreplaceable, and more attractive to overseas recruiters.

“There is a glaring gap between unskilled and multi-skilled practitioners and that’s where one of the industry’s most pressing challenges lies.”

“Fundamentally, recognition by policymakers and industry strategists that South Africa must rapidly acquire the skills to take advantage of the shift in production and business practices is only a tiny step towards putting that knowledge into the hands of people who can turn it into economic value,” says Dwolatzky.

Download the [2019 ICT Skills Report](#) (PDF File: 6.08 MB)