



PATENTS OF CSIR INVENTORS LAUDED

Intellectual property and patents are high on the agenda for improving South Africa's competitiveness. A number of CSIR researchers have earned due recognition for their innovative ideas that have been registered as South African patents. The Innovation Fund, a unit of the Department of Science and Technology that is managed by the National Research Foundation, has announced that these CSIR researchers will benefit from its Patent Incentive Fund.

The patent fund is an instrument set up by the Innovation Fund to give incentives to researchers at publicly funded institutions to protect their inventions through filing patent applications and obtaining final patent protection.

"This is an affirmation of our people's innovative ideas and part of our drive to put research results into practice," comments Dr Sibongile Pefile, CSIR Group Manager: Research and Development Outcomes. "At the CSIR, we manage the entire research and innovation chain, including the transfer of knowledge and technology. We conduct directed research to solve problems experienced by private and public sector stakeholders," she says.

The CSIR researchers and their inventions are:

Secure trolley – Chris Botha* (project leader), Phil Schoeman and Pieter van Greuning

These three researchers from CSIR Materials Science and Manufacturing have developed a trolley – the "Cross Pavement Carrier" – for the cash-in-transit (CIT) industry. The trolley is used for transporting valuables in high-risk operation areas, such as between CIT vehicles and banks. The invention can withstand abnormally rough use and handling, yet it is relatively easy to operate. It can carry up to 95 kg and features a unique uploading system for loading the cargo into the vehicle, reducing the effort of lifting the load

into the vehicle by 60%. Safety features include a remote-controlled brake mechanism that is activated during a heist situation and a lockable safety net that secures the cargo. The trolley also has an alarm siren and a smoke generator that will emit a smoke trail for about five minutes, in a sequence that is also triggered remotely.

Revolving safe – Chris Botha* (project leader) and Pieter van Greuning

The "Revolving Vault" has been developed to prevent easy access to valuables and to secure such valuables during transit in CIT vehicles. This concept is ideal for smaller vehicles where many bags of smaller amounts are being transported. By means of a security code and an index system, only one vault will be presented at a specific time to the operator. This enhances the security in the vehicle and prevents access to the other vaults that form part of the vault system in the vehicle.



Pieter van Greuning, Phil Schoeman and the late Chris Botha have developed innovations for the cash-in-transit and banking industries

* Chris Botha passed away unexpectedly recently.

Secure cash box – Chris Botha* (project leader) and Phil Schoeman

These two CSIR inventors developed the “Cash Box” for the crime prevention industry to detect and prevent any tampering with a cash container when ATM bank terminals are serviced. A sensor detects tampering and then sets off an alarm, while activating certain security features around the box.

Oils from plants – Dr Marthinus Horak (project leader), Louis Ackerman and Flip Kotze

This CSIR Biosciences team has developed mobile, pilot-scale equipment for the distillation of essential oil crops. The equipment provides accurate data on the quality and yield of the product in a farming environment; this in turn allows for the selection of the most suitable crop on a specific farm before the installation of expensive capital equipment. The invention will contribute significantly to current initiatives to create an essential oil industry in South Africa.

to allow industry to extract coal pillars that were left behind after initial mining and, in this way, the life of a mine is extended for many years.



Van Zyl Brink has invented an early warning method for the coal mining sector



The team who invented equipment for the distillation of essential oil crops - Louis Ackerman, Dr Marthinus Horak and Flip Kotze

Early warning against roof falls in coal mines – Van Zyl Brink

Working at CSIR Natural Resources and the Environment, Brink has developed an early warning method against the impending collapse of unstable geotechnical structures, typically within the coal mining sector. The invention is a small stand-alone unit that detects the fracturing associated with the subsequent failure and collapse of the roof in a coal mine. The invention has the potential