



science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



CALL FOR PROPOSALS: SEED FUNDING LOCAL INNOVATION IN THE SMALLHOLDER ESSENTIAL OILS VALUE-CHAIN

Technology Innovation Agency (TIA), an entity of the Department of Science and Technology (DST) was established in terms of the TIA Act, 2008 (Act No. 26 of 2008), with the objective to stimulate, intensify and exploit technological innovation to improve economic growth and the quality of life of all South Africans.

PURPOSE OF THE CALL

The Technology Innovation Agency (TIA), a government agency, invites experienced individuals with a strong background in the essential oils industry, businesses, R&D Centres, local organisations, local government universities and colleges (TVET, agricultural and community) with technological innovations and/or innovative solutions beyond the proof of concept stage for application along any part of the essential oils value-chain that can positively impact on smallholder producers (primary production, extraction and processing) to submit applications for further Research and Development (R&D) activities. We especially encourage disadvantaged individuals, communities, organisations and institutions in rural areas to apply. The primary objective of the applicants must be to contribute to the advancement the essential oils industry- not commercial gain. In addition, applications must be prepared to work in partnership with individuals from different organisations. Applicants may also wish to complement existing R&D work.



BACKGROUND TO THE CALL

INTRODUCTION

Essential oils are high value agricultural crops with a growing worldwide demand from the cosmetics, food and chemicals industries. South Africa has the potential to cater for this growing local and global demand. Over the past 15 years the Department of Science and Innovation (DSI) has funded various smallholder projects for the production and extraction of essential oils to demonstrate its potential to emerging farmers and rural communities to participate in this growing industry. It was found that essential oils can be difficult and costly to produce sustainably. Most of these projects became commercially unsustainable due to high rates of crop failure, lower than anticipated essential oil yields, lack of required skills and expertise, and lack of access to commercial funding, amongst other factors. Even after growing and harvesting large volumes of biomass and using existing distilling machinery, producers still face the prospect of negative gross margin for the raw essential oil they sell.

OBJECTIVES OF THE CALL

The overall objective of the Call is to advance the economic inclusion and prosperity of rural smallholder producers in the essential oils value-chain through improving production efficiencies and enabling access to appropriate technologies that generate positive gross margins for smallholder producers. The specific objectives of the Call are to:

- ▶ Interact with prospective producers and buyers so that crop, product and process choices meet specific needs and affordability criteria;
- ▶ Increase access/make available essential oil biological stock for production in a biophysical environment;
- ▶ Develop, test and certify agricultural and industrial production protocols and technology systems for selected essential oil species, namely Yarrow, Rose Geranium, Rosemary, Thyme, Marjoram and Lemon Balm;
- ▶ Improve training and human capital development for selected essential oil species;
- ▶ Complete feasibility studies for smallholder sustainability to facilitate smallholder access to loan finance.

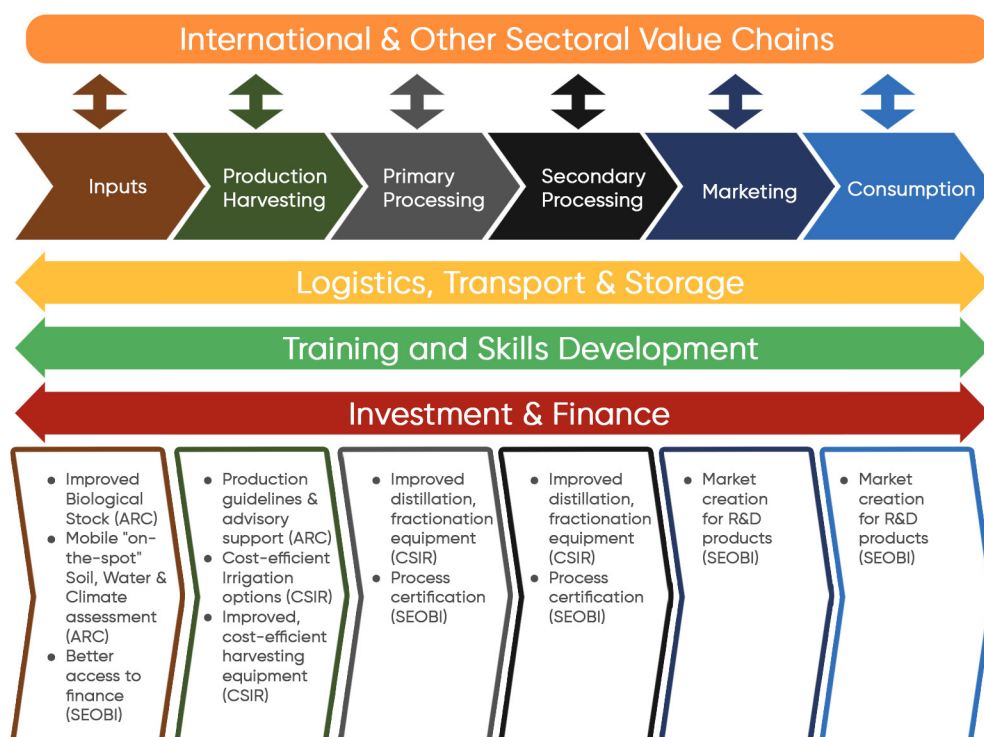
The expected outcome is a substantially better and more cost-efficient (net positive) economic, social and environmental production model as well as processes, solutions and equipment that encourages investment in the rural smallholder essential oils value-chain by individuals, impact investors and development finance institutions such as Land Bank and Industrial Development Plan (IDC), amongst others.



THE ESSENTIAL OILS PROJECT

The DSI, supported with funding from the European Union (EU), has partnered with the Agricultural Research Council (ARC), Council of Scientific and Industrial Research (CSIR), SA Essential Oils Business Incubator (SEOBI) and TIA to identify, develop and deploy innovative solutions along the essential oils value-chain to address key challenges faced by smallholder essential oil producers. The support project is entitled "Strengthening the Smallholder Essential Oils Value-Chain via Local Innovation Systems and Feasibility Studies for Industrial Loan Finance" – hereafter simply referred to as "the Project".

Research and innovation by the Project partners will focus on development, testing and certification of model sites and production systems in two (yet to be selected) agro-ecological regions / clusters for essential oils that are in-demand. The Call focuses on high potential essential oil species/varieties that could be produced at a small scale by smallholder producers- largely using low-input or organic production methods and green technologies to reduce input costs. The selected essential oils are Yarrow, Rose Geranium, Rosemary, Thyme, Marjoram and Lemon Balm. The Project partners will establish the necessary technical production capacity to create and sustain the research centre and core of these future essential oil clusters. The intent is for the core within a cluster to sustainably supply affordable and high yielding essential oil biological stock, as well as relevant value-chain and advisory support services to smallholder producers within its region/periphery. The research and innovation activities of the Project partners along the essential oils value chain are summarised in the following diagram:



¹ In line with national agricultural policy, smallholder producer is defined as an individual or business entity where farming and other value-chain activities are consciously undertaken in order to meet the needs of the household and derive a source of income by producing for the market. These are usually the new entrants with an annual turnover ranging from R50 000 – R1 million per annum.



The Project is implemented over 3 years, from 2019 and ending in 2022, starting with nursery / laboratory scale research and development, but gradually expanding the innovations onto larger start-up (1ha) sites and stepped-up scale (5ha) factory farms. A critical element of the Project is the participation of smallholder producers in all the innovations and innovative solutions being developed to ensure the innovations are responding to the real-world challenges experienced by smallholder essential oils producers. Smallholder producers may propose changes to innovations if they are not happy with what is being developed, or even reject the innovations as not being feasible or economically viable from their perspective.

THE FUNDING OPPORTUNITY THROUGH THIS CALL

TIA seeks to support individuals, businesses, enterprises, local organisations, universities and colleges who have innovative solutions and/or technologies beyond proof of concept stage along any part of the essential oils value-chain that could benefit smallholder producers to further develop these solutions / technologies. These innovative solutions could, amongst others, be:

- ▶ Innovations in essential oils production or processing being developed by local research institutions or essential oils enterprises;
- ▶ Innovations in essential oils harvesting processes and equipment that are cost effective for smallholder essential oils producers;
- ▶ Innovations that enhance and complement the innovative solutions being developed by the project partners;
- ▶ Innovations that promotes green energy, energy efficiency and/or water efficiency in essential oils production and processing;
- ▶ Innovations that adds value to any waste by-product of essential oil production or processing including the residual plant material (bio-waste) and waste water from essential oils distillation (hydrosol);
- ▶ Innovative new products to meet latent demand from consumers or other industries, including food packaging and processing industry, chemical industry, cosmetics, and personal health and hygiene industry, amongst others; or
- ▶ Solutions to address challenges of logistics, marketing, financing and skills of smallholder producers.



Funding from TIA will be limited to a maximum of R1 200 000 inclusive of VAT for each selected innovative solution under this phase, excluding any other non-financial support the applicant may potentially receive from TIA during the investment period. The funding will be limited to 24 months. The direct financial support will be limited to the following:

- ▶ Product development and validation;
- ▶ Prototype development and testing;
- ▶ Access to, or procurement of, equipment necessary for product development and testing;
- ▶ Certification of products or solutions to comply with relevant regulatory or industry standards;
- ▶ Intellectual Property Protection;
- ▶ Innovation and enterprise skills development and training;
- ▶ Any other critical activity necessary to advance an innovative solution to a problem- towards commercialisation

If necessary, and depending on progress with developing the innovation, additional funding may later be applied for, from other TIA funds to assist innovators to advance their innovative solutions along the innovation value chain- towards full commercialisation.

Applicants should note that innovations funded by TIA are governed by the Intellectual Property Rights from Publicly Financed Research and Development Act of 2008. A specific and non-negotiable condition of this funding will be that the innovative solution or technology be made available for smallholder essential oils producers in South Africa royalty-free, to enhance their commercial viability. The paragraph must unpack the following

IP ownership

- While it will be agreed that the innovation/s be availed royalty-free (at no cost) to emerging smallholder farmers and processors in designated essential oil clusters and other areas, the IP will be owned by the originator/innovator.

Licensing of innovation/s

- The innovator will be allowed to license out their innovation/s outside the country and to established businesses in South Africa

R&D Partnership arrangement – IP ownership

- In cases of R&D partnerships with science councils and institutions involved in the project, IP ownership will be shared and terms will be agreed upfront.

² The Act aims to ensure that intellectual property (IP) emanating from publicly financed research and development (R&D) is identified, protected, utilised and commercialised for the benefit of the people of South Africa. The Act distinguishes between creating IP through R&D and commercialisation opportunities emanating from the IP that was created. As per the Act, the IP created with TIA funds is owned by the recipient of the funding, with additional conditions if a public research institute was involved in the IP creation. The Act places specific obligations and duties on the recipient to protect, develop and where possible commercialise the IP created. The Act defines commercialisation as the process by which any IP is, or may be adapted or used, for any purpose that may provide any benefit to society or commercial use on reasonable terms. When making decisions on commercialisation, the owners of IP created through publicly funded R&D should give preference to non-exclusive licencing, BBBEE entities, small enterprises, and to parties that seek to use the IP in ways that provide optimal benefits to the economy and quality of life of the people of South Africa. Where feasible, the manufacturing, processing and otherwise commercialisation activities should preferably be undertaken within South Africa. Further information is available on <https://nipmo.dst.gov.za/>.

APPLICATIONS

Applicants must be South African citizens and/or legal entities registered in South Africa. Preference will be given to disadvantaged individuals, communities, organisations and institutions, especially those located in rural areas.

Applicants must complete the Expression of Interest (EOI) template, wherein they must describe the proposed innovative solution / technology, what problem it seeks to address or market opportunity it seeks to exploit, the current development status of the innovation, list the team that will develop the innovative solution, and state existing resources available and what they need from TIA. The EOI provide TIA and the other project partners with an idea and understanding of the proposed innovative solution / technology.

Only completed EOI that pass evaluation will be invited to a project briefing session where after these applicants will be invited to submit a full, detailed proposal. Due diligence will be undertaken on the applicants invited to submit full, detailed proposals.



ASSESSMENT

Applications will be evaluated on the following:

- ▶ Current stage of development along the innovation value-chain of the proposed technology or solution;
- ▶ Feasibility, practicality and viability of the proposed technology or solution;
- ▶ Potential impact of the solution on smallholder essential oils producers and/or the essential oils value-chain;
- ▶ Complementarity with the solutions being developed by the Project partners;
- ▶ Extent of co-funding to develop the innovative solution / technology, i.e. access to and availability of additional funding and resources;
- ▶ Competence, expertise and capability of the applicant/team to develop the solution and potentially commercialise the opportunity; and
- ▶ Preference will be given to disadvantaged individuals, communities, organisations and institutions, especially those located in rural areas.



ENQUIRIES AND CLOSING DATE

All applications must be submitted by completing on the application form made available on the TIA website www.tia.org.za and submitted to Ashaal Roopchan by 13 July 2020 at 12am SAST. Late applications will not be accepted.

For more information contact Ashaal Roopchan via email at ashaal.roopchan@tia.org.za