

GROW BOT

**Towards a new generation of plant-inspired
growing artefacts**

Grant Agreement No. 824074



GrowBot - 1st Call for Ideas

(Call for Proposals, Guidelines and Rules for Participation)

About GrowBot

GrowBot is a European project funded under the Future and Emerging Technologies (FET) programme, specifically FET-Proactive, of the EU framework programme for research and innovation (Horizon 2020).

GrowBot proposes a disruptively new paradigm of movement in robotics inspired by the moving-by-growing abilities of climbing plants.

Plants are still a quite unexplored model in robotics and ICT technologies, as their sessile nature leads to think that they do not move. Instead, they move greatly, on a different time scale, purposively, effectively and efficiently. To move from one point to another, plants must grow and continuously adapt their body to the external environmental conditions. This continuous growth is particularly evident in climbing plants.

The GrowBot objective is to develop low-mass and low-volume robots capable of anchoring themselves, negotiating voids, and more generally climbing, where current climbing robots based on wheels, legs, or rails would get stuck or fall.

GrowBot is based on a strongly interdisciplinary character and can open the way for a new technological paradigm around the concept of growing robots, fostering a European innovation eco-system for several high-tech sectors.

More information about GrowBot project can be found here: www.growbot.eu

The current document is about the GrowBot – 1st Call for ideas.

GrowBot – 1st Call for Ideas

The GrowBot consortium is promoting initiatives that aim to enlarge and enrich the technological and plant science communities for developing bioinspired materials and robotics. In this initiative, we wish to foster new and creative research thinking, primarily for young researchers who are motivated to work in scientific fields. We are therefore launching two calls for ideas in the form of prizes (in line with the conditions set out in general Annex K) for performing selected activities at the European level. These calls will be launched twice during the four-year project and will target scientific topics that are relevant for GrowBot project, yet they do not represent pre-defined core activities of partners.

This first call for ideas is seeking for proposals in the following biological topic:

- ***In situ* growth dynamics of vines and lianas in the forest canopy** - The core element of the GrowBot project is to understand how climbing plants climb and integrate this knowledge into a new generation of climbing artefacts. However, very few studies actually document just how climbing vines and lianas behave in the forest canopy. We are therefore very interested to know just how diverse climbing plants actually behave in and on the forest canopy. This topic addresses issues relating to the development of new tools and methodologies for the observation of the growth dynamics of lianas in the forest canopy.

Currently, the traditional approaches include pictures or film taken from ground or air. The main drawbacks are related to the difficulty of access, resolution of features, visualizing amid stem and leaf clutter, limited ranges of studied canopies and expense of observing more than a few locations using canopy rafts, cranes or climbers. Candidates should address these issues by considering all potential options and methods; improvements over current approaches are strongly encouraged. Suggestions of new or unconventional approaches which will be more than welcome.

GrowBot – 1st Call for Ideas information

Project full name: GrowBot - Towards a new generation of plant-inspired growing artefacts

Grant Agreement: 824074 (H2020-FETPROACT-2018-01)

Call title: GrowBot – 1st Call for Ideas

Amount of the prize: EUR 30k

Conditions for participation: Young researchers (max 35 years)

Language of the proposal: English

Proposal submission: Online submission

Call opening: May 2nd, 2019

Call deadline: May 31st, 2019 at 17:00h CET (Brussels time)

Evaluation of proposals: June 1st – 19th, 2019

Winner nomination: June 20th, 2019

Research activities: 1st August – December 31st, 2019

Proposal Template: proposals must be submitted using the provided template (in Word format)

Proposal features: 3-page proposal (including general idea, a detailed 5-month project workplan, and expected results)

Added documents: Proposer CV

Contact: info@growbot.eu

Web address for further information: <https://www.growbot.eu/project/grants/21-first-call-for-ideas>

The proposals will be evaluated by a commission composed of the GrowBot members of the Scientific and Management Board (SMB), the Innovation Management Board (IMB), and the Advisory Board on the base of novelty, feasibility, proposed CV and coherence with the GrowBot objectives.

The winner of the call for ideas will start after 2 months from the end of the call and he/she will be hosted for a 5-month period at one of the institutions of the GrowBot consortium.

The prize (EUR 30k) will be paid to the host institution appointed by the candidate by bank transfer.

Proposal Template

The applicants must use the proposal template available at <https://www.growbot.eu/project/grants/21-first-call-for-ideas>. In the document there will be instructions specifying the type of information expected

per section. Each section should not exceed the maximum number of words indicated. Applicants are solely responsible for completing all required fields in the template according to the instructions.

The proposers must apply online at <https://www.growbot.eu/project/grants/21-first-call-for-ideas> or sent the documents in PDF format at info@growbot.eu. If you discover an error in your proposal, and provided that the call deadline has not passed, you may submit a new version. Only the last version received before the call deadline will be considered in the evaluation. Proposals must be received by the closing time and date of the call. Late proposals, or proposals submitted in any other way than through the online submission form will not be evaluated.

Letter of Commitment Template

The proposers must use the letter of commitment template available at <https://www.growbot.eu/project/grants/21-first-call-for-ideas>. In the document, the chosen host institution will confirm its intention to sign a supplementary agreement with the candidate in which the listed obligations will be addressed should the proposal be selected.

Evaluation criteria

Each proposal will be evaluated in accordance with the following criteria:

- RESEARCH SKILLS (max 30 points)
 - Background and professional experience (max 15 points)
 - Publications (max 15 points)
- PROPOSAL PROJECT (max 50 points)
 - Impact (max 15 points)
 - Novelty (max 15 points)
 - Feasibility (max 20 points)
- PERSONAL SKILLS (max 20 points)
 - Team working (max 4 points)
 - Communication (max 8 points)
 - Motivation (max 8 points)



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