

LOGGFORCAT – Development of an efficient logging system using the LOGGFORCAT boom harvester

Summary

LOGGFORCAT is an operational project that has created an innovative wood clearing system based on the construction of a prototype 15-meter telescopic arm with a fastener that allows easier track-side clearance of felled trees, stacking them to match forest truck loading requirements, improving yields, reducing environmental impact and improving safety in forestry work.

Objectives

- Modernise the wood product clearing system.
- Improve the forest biomass production system for the production of renewable energies.
- Improve the financial results of forestry operations.
- Promote the use of forest biomass and consolidate forestry as an energy sector.
- Facilitate the supply of forest biomass and its development as renewable energy.
- Generate a demonstrative effect and transferability.

Description of the actions carried out in the project

- Design and construction of the LOGGFORCAT RS prototype.
- Design and validation of clearing system with the LGGFORCAT RS prototype.
- Pilot tests for the validation of the LOGGFORCAT RS prototype and LOGGFORCAT clearing system.
- Transfer of results.

Final results and practical recommendations

- The LOGGFORCAT collector arm lowers operation costs, as it is three times faster than a tractor-mounted winch.
- The LOGGFORCAT collector arm produces half the emissions of a tractor-mounted winch in wood clearing.
- Use of LOGGFORCAT significantly improves both the work ergonomics of forest workers and their safety.
- Boom trucks reduce the costs of loading cleared wood, as they do not have to pick it up along the way but collect it in ready-prepared stacks.
- The LOGGFORCAT clearing system allows simultaneous clearing and sorting, improving yield while recovering the product.
- LOGGFORCAT RS reduces impact on soil and erosion problems, as well as the uprooting or damaging of stumps from impact with dragged logs, as the logs are cleared by lifting (without touching the ground).

Conclusions

The prototype, LOGGFORCAT RS, has been created, involving a collection arm with clamp, which is approved and bears the CE mark. The prototype allows clearing with a new, more financially and environmentally efficient system.

Leader of the Operational Group

ORGANISATION: ESTRATS DE BOSC SL

CONTACT E-MAIL: estratsdebosc@gmail.com

Coordinator of the Operational Group

ORGANISATION: ROBERT ROSELL PAGES

CONTACT E-MAIL: estratsdebosc@gmail.com

Other members of the Operational Group (grant recipients)

ORGANISATION: FORESTAL RIUDECOS, SL

E-MCONTACT E-MAIL: riudecos@riudecos.com

Other members of the Operational Group (not recipients of the grant)

ORGANISATION: Forest Science and Technology Centre of Catalonia (CTFC)

CONTACT E-MAIL: adriano.raddi@ctfc.es

Subject area(s) of application

- Agricultural production system
- Agricultural practice
- Agricultural equipment and machinery
- Livestock farming and animal welfare
- Vegetable production and horticulture
- Landscape / Territorial management
- Pest and disease control
- Fertilisation and nutrient management
- Soil management
- Genetic resources
- Forestry
- Water management
- Climate and Climate Change
- Energy management
- Waste and by-product management
- Biodiversity and environmental management
- Food quality/processing and nutrition
- Supply chain, marketing and consumption
- Competitiveness and agricultural and forestry diversification
- General

Geographical area(s) of application

| PROVINCE(S) | REGION(S) |
|-------------|-----------|
| GIRONA | LA SELVA |

Dissemination of the project (publications, seminars, multimedia, etc.)

Publication of informative and scientific articles on the @loggfor Twitter account

More information on the project

| PROJECT DATES | TOTAL BUDGET |
|-------------------------------------------------|---------------------------|
| Start date (month-year): June 2018 | Total budget: €112,990.55 |
| Completion date (month-year): September 2020 | DARP funding: €46,176.89 |
| Current status: Executed | EU funding: €34,835.20 |
| | Own funding: €31,978.46 |

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