

CROPS project FP7

“Clever Robots for Crops”

Objectives

CROPS will develop scientific know-how for a highly configurable, modular and clever carrier platform that includes modular parallel manipulators and intelligent tools (sensors, algorithms, sprayers, grippers) that can be easily installed onto the carrier and are capable of adapting to new tasks and conditions.

Demonstrators

Several technological demonstrators will be developed for high value crops like greenhouse vegetables, fruits in orchards, and grapes for premium wines. The CROPS robotic platform will be capable of site-specific spraying (targets spray only towards foliage and selective targets) and selective harvesting of fruit (detects the fruit, determines its ripeness, moves towards the fruit, grasps it and softly detaches it). Another objective of CROPS is to develop techniques for reliable detection and classification of obstacles and other objects to enable successful autonomous navigation and operation in plantations and forests. The agricultural and forestry applications share many research areas, primarily regarding sensing and learning capabilities.



Figure 1: an artist impression of two harvesting robots.

Project partners:

Name (Full)	Organisation	Country
STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK	WUR	Netherlands
KATHOLIEKE UNIVERSITEIT LEUVEN	KULeuven	Belgium
BEN-GURION UNIVERSITY OF THE NEGEV	BGU	Israel
UNIVERZA V LJUBLJANI	UL	Slovenia
UMEA UNIVERSITET	UMU	Sweden
UNIVERSITA DEGLI STUDI DI MILANO	UniMI	Italy
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	CSIC	Spain
TECHNISCHE UNIVERSITAET MUENCHEN	TUM	Germany
CNH BELGIUM NV	CNH	Belgium
INSTITUTO DE INVESTIGACIONES AGROPECUARIAS	INIA	Chile
FORCE-A SA	Force_A	France
FESTO AG & CO KG	Festo	Germany
SVERIGES LANTBRUKSUNIVERSITET	SLU	Sweden
JENTJENS MACHINETECHNIEK B.V.	Jentjens	Netherlands

