UNIVERSITAS
GADJAH MADA
**PERANCANGAN KENDALI UNMANNED GROUND VEHICLE (UGV) PADA HAND TRACTOR YANG BERBASIS TELEOPERATED
GROUND VEHICLE (TGV) DENGAN KONSEP LOW COST TECHNOLOGY**
BAGASKARA LAZUARDI, Andhi Akhmad Ismail, S.T., M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Abstrak

Penelitian ini memiliki latar belakang penerapan teknologi di bidang pengolahan lahan pertanian dengan menerapkan kendali *unmanned ground vehicle* pada *hand tractor* yang berbasis pada *teleoperated ground vehicle* dengan konsep *low cost technology*. Tujuan dari penelitian ini adalah melakukan perancangan kendali dari segi elektronik, *programming*, dan 3D *design*-nya, menentukan jarak aman kerja wahana, dan menentukan harga dari kendali tersebut.

Metode yang digunakan menggunakan metode *research and development* dengan langkah penelitian yaitu tahap pengumpulan data yang meliputi studi literatur dan observasi, tahap perancangan kendali, pembuatan *prototype*, dan tahap uji coba.

Perancangan kendali *unmanned ground vehicle* pada *hand tractor* yang berbasis pada *teleoperated ground vehicle* dengan konsep *low cost technology* mampu berfungsi sesuai dengan konsep *teleoperation* dan *low cost technology* dengan jarak aman kerja adalah 448 meter dengan catatan arah angin bertiup dari samping arah propagasi sinyal. *Prototype* memiliki harga Rp. 7.000.000 dengan keunggulan *video real time* untuk membantu orientasi kendali operator.

Kata Kunci: *Unmanned Ground Vehicle, Teleoperated Ground Vehicle, Hand Tractor*

UNIVERSITAS
GADJAH MADA
**PERANCANGAN KENDALI UNMANNED GROUND VEHICLE (UGV) PADA HAND TRACTOR YANG BERBASIS TELEOPERATED
GROUND VEHICLE (TGV) DENGAN KONSEP LOW COST TECHNOLOGY**
BAGASKARA LAZUARDI, Andhi Akhmad Ismail, S.T., M.Eng.
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Abstract

The background of this study is to apply technology in the field of processing agricultural land using the control of unmanned ground vehicle in the hand tractor based on teleoperated ground vehicle with low cost technology concept. The aims of this study are designing the control from electrical aspect, programming and 3D *design, determining the safe distance of the vehicle, and determining the cost of the control.*

The method of the study used reaserch and development with research steps include data collecting stage which includes literature study and observation, the designing stage of the control, prototype building stage, and testing stage.

The design of the unmanned ground vehicle control in hand tractor based on teleoperated ground vehicle with low cost technolgy concept is able to function in accordance with the concept of teleoperation and low cost technology with safe working distance of 448 *meters and additional note of the wind direction blowing from the side of the signal propagation. The prototype has a price of* Rp.7.000.000 *with the advantage of real time video to help operator to control orientation.*

Keywords: Unmanned Ground Vehicle, Teleoperated Ground Vehicle, Hand Tractor