



**AUTONOMOUS**

A G R O M A C H I N E S

Because **planting** trees is the best **way**.



10 million hectares of forest are cut down every year.(fao.org)

<https://www.fao.org/3/CA8753EN/CA8753EN.pdf>



**Deforestation** is **provoking** changes that have caused **floods, droughts, hurricanes**, and a myriad of other problems all around the **world**.

#### 4) Falar sobre Mudanças Climáticas é falar de: FLORESTA

No Brasil, o desmatamento da Amazônia é o principal vilão do clima porque a derrubada e queima das árvores libera gases de efeito-estufa. Perder nossas florestas está nos custando um planeta mais quente e onde eventos climáticos (como as secas e inundações) vão ficar cada vez piores.

**Califórnia registra maior incêndio do ano, dois morrem e 2.000 moradores deixam casas; veja imagens**

Chamas estão fora de controle na floresta nacional de Klamath, no norte do estado dos EUA. Ao menos duas pessoas morreram, e governador declarou estado de emergência no fim de semana.

**EUA, Europa e Ásia enfrentam secas recordes; qual a gravidade do cenário e as suas causas?**

Na Europa, dois terços do território estão sob alerta: seca é considerada a pior em 500 anos. Influência do La Niña e dos ventos do Saara estão entre as causas: aquecimento global torna eventos extremos mais frequentes.

As consequências das mudanças climáticas agora incluem, entre outras, secas intensas, escassez de água, incêndios severos, aumento do nível do mar, inundações, derretimento do gelo polar, tempestades catastróficas e declínio da biodiversidade.

**All** of us **can** help **combat climate change** by supporting the planting of **trees**.



<https://ri.iplantforest.com/>



We **must plant more** trees than are cut down today, meaning **we have to plant**, on average, at least **10 million hectares/year** to stabilize the deforestation/**reforestation** average.



O **reflorestamento intencional** é o plantio e a manutenção de vegetação em áreas que tenham sido previamente **degradadas** ou destruídas e, de acordo com a finalidade do plantio, determinadas espécies são escolhidas. Essa ação de reflorestamento pode ser levada a cabo por uma s

OPINIÃO - JOSÉ ALEXANDRE SCHEINKMAN E JULIANO ASSUNÇÃO

## Reflorestamento na Amazônia é crucial para enfrentar crise climática e econômica

Equilíbrio global depende do Brasil, mas falta vontade política para frear desmatamento

IDEAS • CLIMATE CHANGE

Yes, We Can Grow 1 Trillion Trees to Help Fight Climate Change

<https://time.com/6093342/1-trillion-trees-climate-change/>

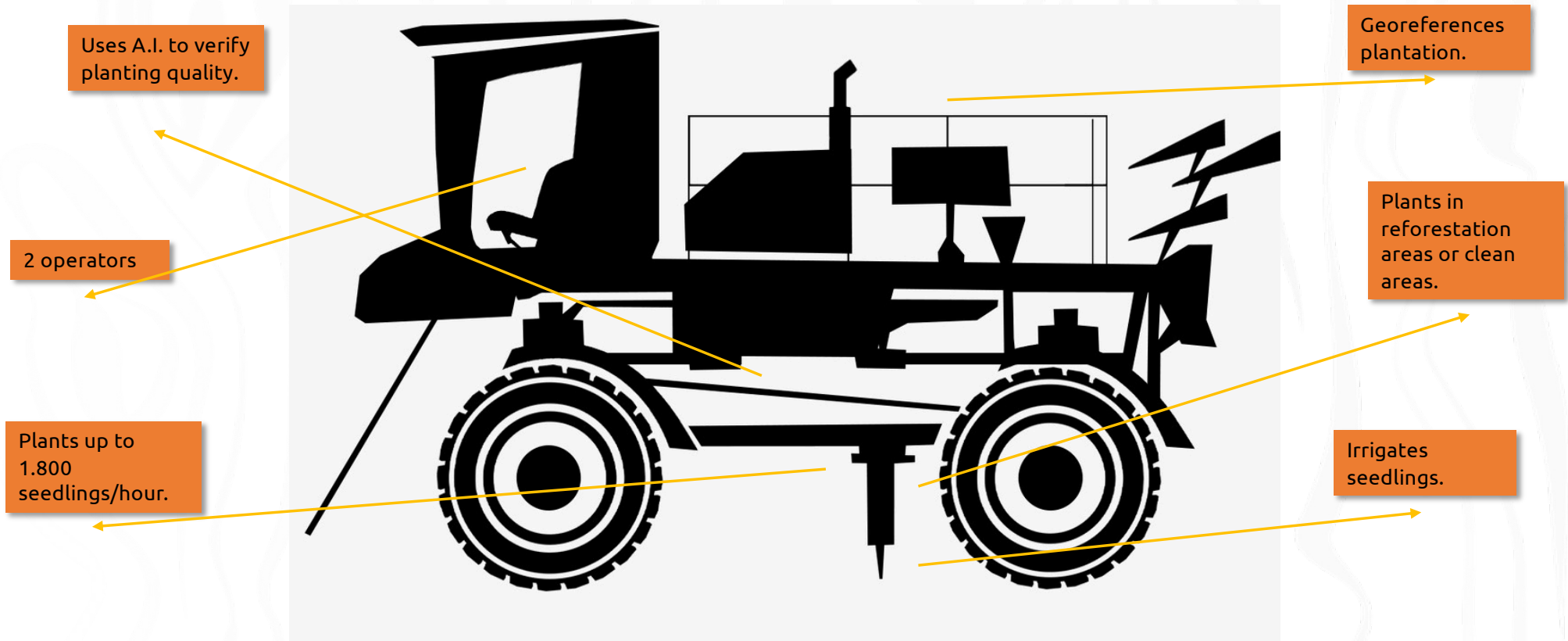


Smart **automation** is the **only solution** to meet the necessity of **reforestation** on a **global scale**.



<https://autoagromachines.com/>

# Forest.Bot the Brazilian machine that plants forests.



Forest.Bot V9R3 (Patent Pending). <https://autoagromachines.com/>

In **2016**, looking to **cheapen** and **streamline** the planting of **native and exotic** seedlings, we began a series of studies, construction of several **prototypes**, and **ideas** to create a **machine** that would be capable of planting nursery seedlings.

<https://ri.iplantforest.com/historico/>



1° Prototype



Right after the introduction of the 1<sup>a</sup> machine, we became a first-page headline in the **Financial Times**, the **biggest economic/business news newspaper in the world**.

position. To build an artificial body requires a lot of study," says Marcello Guimarães, chairman of Mahogany Roraima, a commercial timber and reforestation plantation in the northern Amazon.

For those who have realized that the "most effective" options for mitigating climate change, a team of European environmental scientists wrote in the journal *Science* in July.

It is, however, a time-consuming and often futile. Mr Viana worries that the forest is very complicated as a life system, an entire system to make sure the heart, everything is in the right place to build an artificial body of study," says Marcello Guimarães, chairman of Mahogany Roraima, a commercial timber and reforestation plantation in the northern Amazon.

Brazil's Amazonian of contention is that if land must be planted in consistency of the sun and the other trees, which can growth. Similarly, planting of a single type of tree increases the risk of disease, so a careful mix of species needs to be arranged. This typically needs to be done by expert arborists, of whom there are few in the Amazon.

In addition, some species, such as eucalyptus, grow easily and quickly but they do not provide a habitat for biodiversity to flourish – they become a "dead zone," says Mr Guimarães. Once planning is complete, the reforestation process then needs to be implemented at scale. Under the terms of the Paris climate accord, Brazil has pledged to reforest 12m hectares by 2030 – a long shot at current rates.

"Reforestation has unique challenges of its own. What is the right type of tree, what was the native species, are there nurseries and seed banks? A lot goes

"We get change realise they can libhoods by the resources," says executive of the fo a 60 per cent redu in the areas in whic

Mr Viana worri signals being sonario to illegal lo president has attac NGOs of being beh in the Amazon regio gality is reduced, It development less co "It shifts the econom The non-profit g concerns about financ is a primary benefi Fund, a multimillio scheme support Germany. As defor siped this year, B pended funding, tri splayed with Europ, wh exacerbated by the A Luiz Carlos Lima prosecutor in Roraima state next to Venez that the situation in as citizens become nromental crime ar mate change.

"Brazil is a teenag is an old man," he says respect the law".

Additional reporting in São Paulo



In **2020**, we concluded the construction of the **2° prototype** of the **forest planting machine**.



2° Prototype

As soon as we finished the 2<sup>a</sup> machine, we became a story in **Globo Rural**, a program with the biggest audience in Brazilian TV.



<https://www.youtube.com/watch?v=lb835ATt9Tc>

In June 29th **2021**, we concluded the **3° prototype** of the forest planting **machine**, capable of **planting multiple species**.



3° Prototype

Throughout these years, we have been the **topic** of **news stories** all over the world, which shows global **interest** in **tree planting technology**.

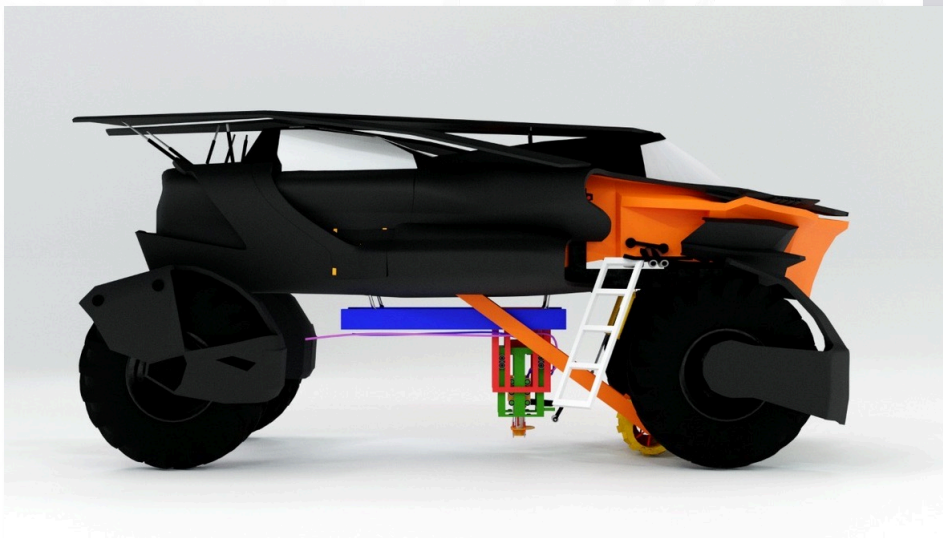
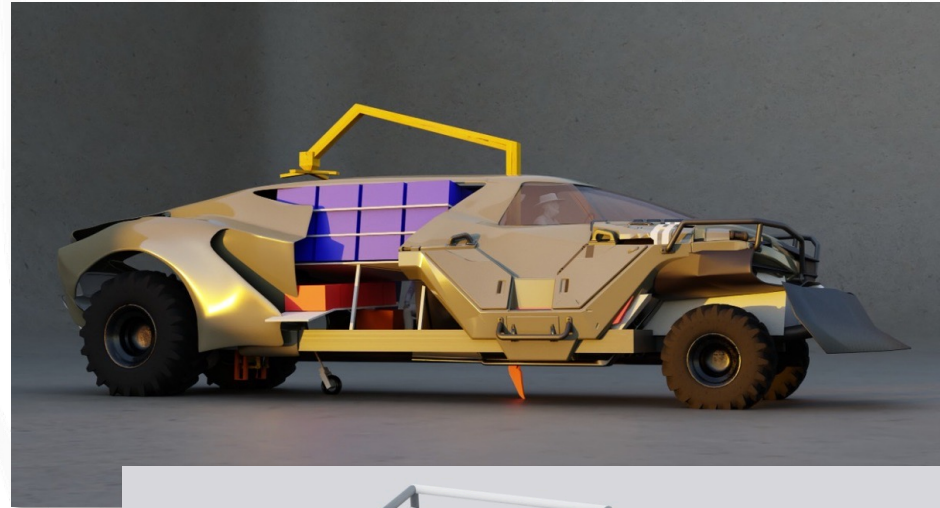


Stories in CGTN America

Media <https://ri.iplantforest.com/midia/>

Since 2021 we began creating several models and ideas to get to our **current Forest.Bot V9R3**

(Patent Pending).



Forest.Bot Prototypes

The creators of **Forest.Bot** are **programmers** with **38 years** of experience in the areas of software **SAAS**, management, **Artificial Intelligence**, database, **mobility and automation**.

After the establishment of **Mahogany Roraima** we realized it was **necessary** the creation of a **mechanical** solution for the **planting** of nursery seedlings so, we initiated the **tree-planting machine** project.

<https://mahoganyroraima.com.br/>

Brothers Marcello (above) e Eduardo Guimarães. Authors and holders of the Forest.Bot patent.



We developed a **modern system** of **planting quality verification**, on top of **creating** a map with the **GPS** position of **Every planted seedling**.

Our system **verifies** details in the planting of each seedling, informing if the **seedling** is **tilted** or not, if its **stalk** is too deep in the soil, if its substrate is **exposed**, among other important data for the development of a **tree**.

<https://aiquimist.com/>



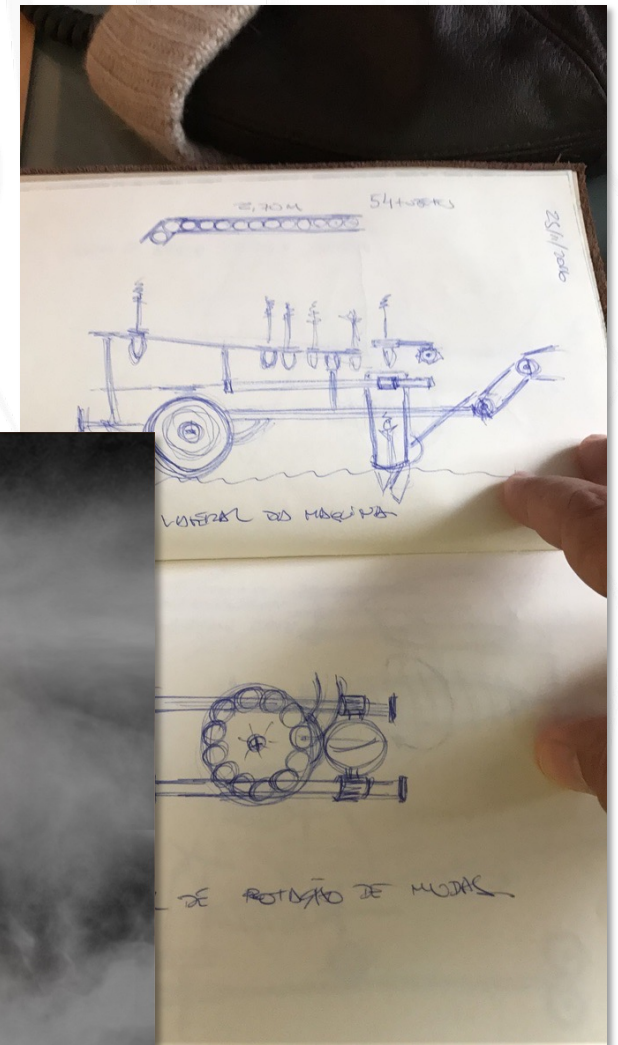
Nicholas Guimarães  
responsible for  
Forest.Bot's A.I. system.



**6 years** have passed since the **first** drawing until the **construction** of the machine that will be **released in 2023** in partnership with **Incomagri**.



Forest.Bot V9R3. Patent Pending



2016 drawing.

**Forest.Bot** and our reforestation project, **iPlantForest** were chosen by **Smart Forest (Cambridge University)**, as one of the **best** projects and **machine** in **all** initiatives for **smart forests** in the world.

The project **Smart Forest Atlas** received funds from the “**European Research Council (ERC)** under the European Union’s Horizon **2020** research and innovation program (Grant Agreement No. 866006).”



**European Research Council**  
Established by the European Commission

BY [JENNIFER GABRYS](#) / [DANILO URZEDO](#)  
24 JUNE 2022  
BOA VISTA, RORAIMA, BRASIL

### **iPlantForest**

[iPlantForest](#) proposes to use blockchain operations to track and report where and how restoration actions occur. Users around the world will be able to purchase tree-planting services through a cryptocurrency token named ReforestCoin. The platform promises to develop a transparent system through databases that monitor and report how restoration projects progress at the local level. iPlantForest is made up of several companies, including Mahogany Roraima which is developing the [forest bot](#).

Smart  Forests	Logbooks ▾	Digital Tree-Planting Operations
← Logbooks		BY <a href="#">JENNIFER GABRYS</a> / <a href="#">DANILO URZEDO</a> / <a href="#">KATE LEWIS HOOD</a> 24 JUNE 2022 BOA VISTA, RORAIMA, BRASIL <b>Forest Bot</b>
<small>Added 24 Junho 2022 Last edited 28 Outubro 2022</small>		

<https://atlas.smartforests.net/en/logbooks/digital-tree-planting-operations/>

**Forest.Bot** is currently the **fastest** and most **efficient forest-**planting machine produced in **Brazil**.

- Plants on average **1.800** seedlings/hour.
- **Georeferences** every seedling.
- **Maps** plantation's KML.
- Utilizes **A.I** to **verify** the planting quality.
- Auto **pilot**.
- **Irrigates**.
- **Telemetry** to all components of the machine.
- Uses **15** L/hour.
- Plants on average **25 hectares/day** with **2 operators**.



Patent Pending


<https://autoagromachines.com/ficha-tecnica/>

In **2022** we established *Autonomous Agro Machines* in partnership with **Incomagri** – who has 40 years of experience in the agricultural machines market.

**Automated** and **smart** machines for **agriculture** in general for the big and small producers.

Focus on the construction of machines for:

- **Planting of nursery seedlings** (forests e other cultures);
- **Irrigation using smart A.I. technology;**
- **Smart fertilization;**
- **Pest control** using A.I.;
- Forest or plantation **inventory;**
- Forest or plantation **health analysis.**



To **solve** the **reforestation** problem on a global scale, we want to take our machines to every **corner** of the **world** and plant **native** or **exotic** seedlings in **afforestation**, silviculture, reforestation, and **recovery** of **degraded** areas projects. Constantly investing in the improvement of the **Forest.Bot**.

# 2023 year of pre-release of the **Forest.Bot**



Forest.Bot V9R3.

Patent Pending



**AUTONOMOUS**

AGRO MACHINES

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**forest bot**

Patent Pending



# forest bot<sup>®</sup>

Patent Pending

A **Brazilian** solution from the **Legal Amazon** to the **world**.