

Integrando a la comunidad investigadora en los estudios del nuevo genoma del coronavirus

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Private companies acted with first line support – 1st wave of actions

R\$ 500 M ~ USD 100 M

- 15 cargo flights from China
- 5 million rapid test kits
- 15.8 million personal protection equipment

Hospitals

- 2 field hospitals (Parauapebas and Rio)
- 3 refurbished hospitals (Itabira, Belo Horizonte, Parauapebas)

Indigenous and quilombola

- 15 health care units
- Cleaning kits

R\$ 1 B ~ USD 500 M support for suppliers



Volunteer actions + matching funds

A screenshot of the 'VoluntáriosVale' website. The page features a green and white color scheme. At the top, there are navigation links: 'Quem Somos', 'Ações', 'Mobilização', 'Classificados de bairro', and 'Seja Voluntário'. Below the navigation, there is a large circular image of a person riding a yellow scooter. To the left of the scooter, the text reads 'Você está na Rede Voluntária Vale!' and 'Apoiamos o comércio local. Encontre ou indique um comerciante da sua região.' Below this text are two buttons: 'Conheça os classificados' and 'Conheça nossas ações'. To the right of the scooter, there is a circular badge with the number '2651' and the text 'Voluntários Cadastrados'. Below the badge, the text reads 'Voluntários cadastrados podem indicar ações!' and 'Seja voluntário!'.

Open challenge Covid-19



Prevenção e rastreamento de Risco



Triagem/ Diagnóstico



Monitoramento e acompanhamento de pacientes



Cuidados intensivos



Open Challenge

- Up to USD 200K support
- Connecting companies
- Access to Vale's AI center

- 1,800 applicants
- 12 projects funded
- NGS based mass tests
- Face shield production platform (3)
- Air disinfection
- 70% EtOH production system (2)
- Vital signs capture system
- Remote psychological support system
- Sterilizing boxes
- Hemodynamics monitoring equipment

Research 2nd wave

- Research has a different timing
- Distress of ITV researchers – what could we do?
 - Genomics
 - Bioinformatics



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- The genome of Sars-CoV2

- Brazil 974 genomes
- 479 complete + high quality
- 441 States of São Paulo and Rio

GSAID (28/08/20)

- Vale
 - Would take the actions beyond immediate support
 - Relevant to the community
 - Make us of a reserach asset - ITV
- Information that will be useful during and after the pandemic
- Open
- Cooperativa

The project

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Ministério da Saúde

FIOCRUZ

Fundação Oswaldo Cruz

- + Public and Private research institutions
 - Simplified contract
 - Informal collaborator
 - Funds can be used by any partner
- Centralized data analysis (UFRN)
- Several sequencing labs (not too many)

- R\$ 2,4 M - ~500K USD
- 2 years
- 1,000 genomes
 - Impact of variations on drugs, vaccines and diagnostics
- Bioinformatics pipelines
- Training
- Network
- Open objectives
 - Steering committee decision

Governance

PIs

Guilherme Oliveira (ITV)

Wim deGrave (Fiocruz)

Executive Committee

Guilherme Oliveira (ITV)

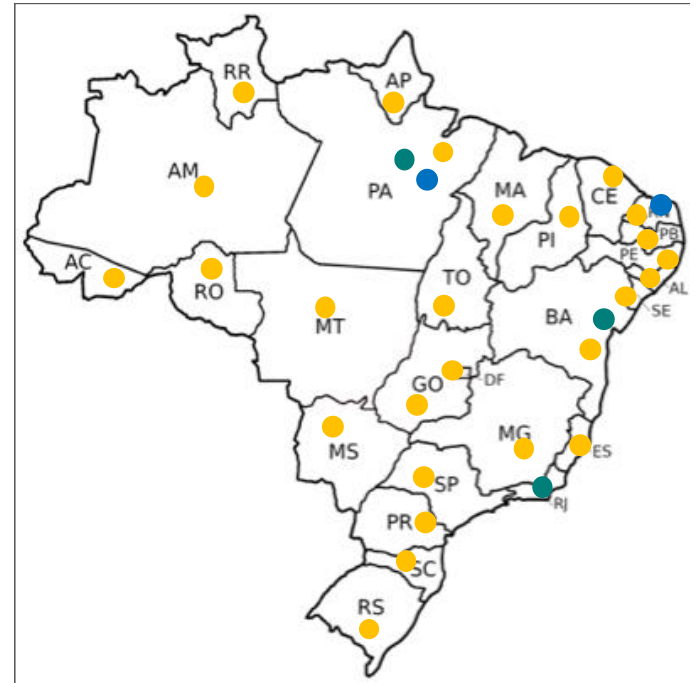
Wim deGrave (Fiocruz)

Felipe Naveca (Fiocruz)

Paola Resende (Fiocruz)

Others who sign simplified contract

Funds managed by FIOTEC



- Sequencing centers
- Bioinformatics core
- Samples and amplicons

Technologies

Illumina short reads

+++



PacBio long reads

+



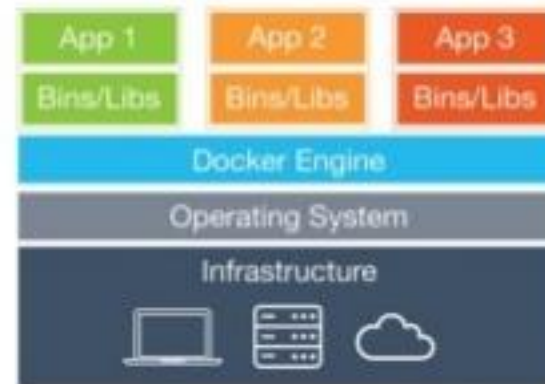
Amplicon sequencing
Metagenomics

Minlon long reads

+



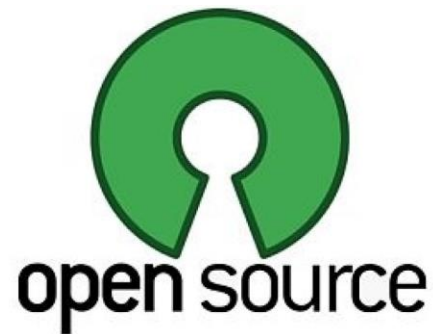
Portability and standardization
(high quality genomes)



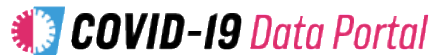
Containers

128 downloads

Open data, open source, no IP



Public repositories



Difficulties

- Bureaucracy
 - Additional Covid issues with digital signatures
- Reagents
 - Cost
 - Delivery time
- Unusual model
 - Open project, part of the deliverables are known
- Management
 - It will be challenging
 - We must deliver! Evidence that the model works
- For engagement with companies must have institutional support
 - Many large business are interested in making significant social contributions



Thank you

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www.itv.org / www.oliveira.life /

www.itv.org/pesquisa/desenvolvimento-sustentavel/projeto-genoma-covid-19/

Fiocruz Rio

Wim deGrave

Paola Resende

Fiocruz Manaus

Felipe Naveca

Fiocruz Recife

Gabriel Wallau

UFRN

Sandro de Souza

Selma Jerônimo

UFPE

Valdir Balbino

UFMG

Santuza Teixeira

Flávio Fonseca

UFMA

Hivana Dallagnol

UFPA

Ândrea Ribeiro

+72 researchers involved at the moment