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NEWSWIRE SERVICES

## **NEWS RELEASE**

### ***SUMMUS SOLUTIONS NV announcing strategic minority investment into potential future unicorn company IONOTERRA LIMITED P.C., which is working in the Republic of Romania (European Union) on Proof of Concept for an early warning system for earthquakes***

***Vancouver, August 2, 2019 - SUMMUS SOLUTIONS NV ("Summus" or the "Company") (TSXV: SS) is pleased to announce that today SUMMUS SOLUTIONS NV ("SUMMUS") has acquired an 1% strategic interest in the Israel based US IONOTERRA Group. SUMMUS acquired its stake from an institutional investor in IONOTERRA and is in negotiations to potentially increase its stake upto 20%.***

What Is IONOTERRA, [www.ionoterra.com](http://www.ionoterra.com)?

**IONOTERRA is a scientifically & realistically proven system, enabling mankind for the first time to predict & warn population of an upcoming earthquake, at least 8 hours before the catastrophic event, with over 90% precision (for magnitude exceeding 4.5 Richter scale).**

**IONOTERRA is an Israeli based US American R&D company consisting among others of experts in geophysics, ionosphere, and radar systems for various natural and artificial phenomena prediction occurring in the near-the-earth cosmic space.**

Technology is based on prediction of main parameters – precursors of EQ, resulting with the 3 most crucial indicators in EQ prediction: breakthrough moments / IONOTERRA Observatory Lab/August 2019: Where will the EQ take place? When will the EQ take place? What magnitude will the EQ have?

All seismic activity on earth is reflected in ionosphere before during and after an earthquake. IONOTERRA deployed system is constantly scanning a specific Ionosphere region sizing thousands of square kilometers above a seismically active zone using radars. IONOTERRA developed an IP Algorithm analyzing all data coming from the radars & ionosondes sensors.

The IP Algorithm produces a geo seismic real time risk map for any monitored region, resulting with a clear cut alert in case of an upcoming Earthquake 8 hours in advance.

R&D is finalized after a long term research of more than 25 years in the fields of ionosphere, radio propagation and over-horizon radar systems, resulting with many international academic publications such as:

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- Blaunstein, N., Method of Earthquake Prediction, US Patent 6,246,964 B1, Jan. 12, 2001.
- Blaunstein N., and M. Hayakawa, " Short-term ionospheric precursors of earthquakes using vertical and oblique ionosondes", Physics and Chemistry of the Earth, vol. 34, No. 6-7, pp. 496-507, 2009.
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- Blaunstein, N., and E. Plohotniuc, Ionosphere and Applied Aspects of Radio Communication and Radar, Boca Raton: CRC Press, 2008, 577 p.
- Blaunstein, N., S. Pulnits, and Y. Cohen, "Computation of the main parameters of radio signals in the land-satellite channels during propagation through the perturbed ionosphere", Geomagn. and Aeronomy, Vol. 53, No. 2, 2013, pp. 1-13.

At present IONOTERRA holds an advanced technology of ionospheric tomography combined with a novel ionosonde that can obtain a useful signal "embedded" into the clutter (e.g., noisy ionospheric plasma environment).

**PROOF OF CONCEPT**

During the period August 15th - October 15th 2019 IONOTERRA is running a final PoC experiment from its Observatory Lab in the Balti University, Moldova, monitoring Vrancea, a frequently active seismic region in East Romania used by IONOTERRA in the recent years for experiments, calibration and field tests.

**About the Company**

Summus Solutions NV is a junior oil and gas exploration and production company focused on identifying and exploiting hydrocarbon opportunities. To counteract global warming we have been lately looking into identifying early-stage pre-IPOs and start-ups in the tech arena and related sustainable fields. For further information, please contact Urs Meisterhans at +41 44 913 36 01 and/or visit the company website at [www.summus-solutions.com](http://www.summus-solutions.com).

On behalf of the Board of Directors

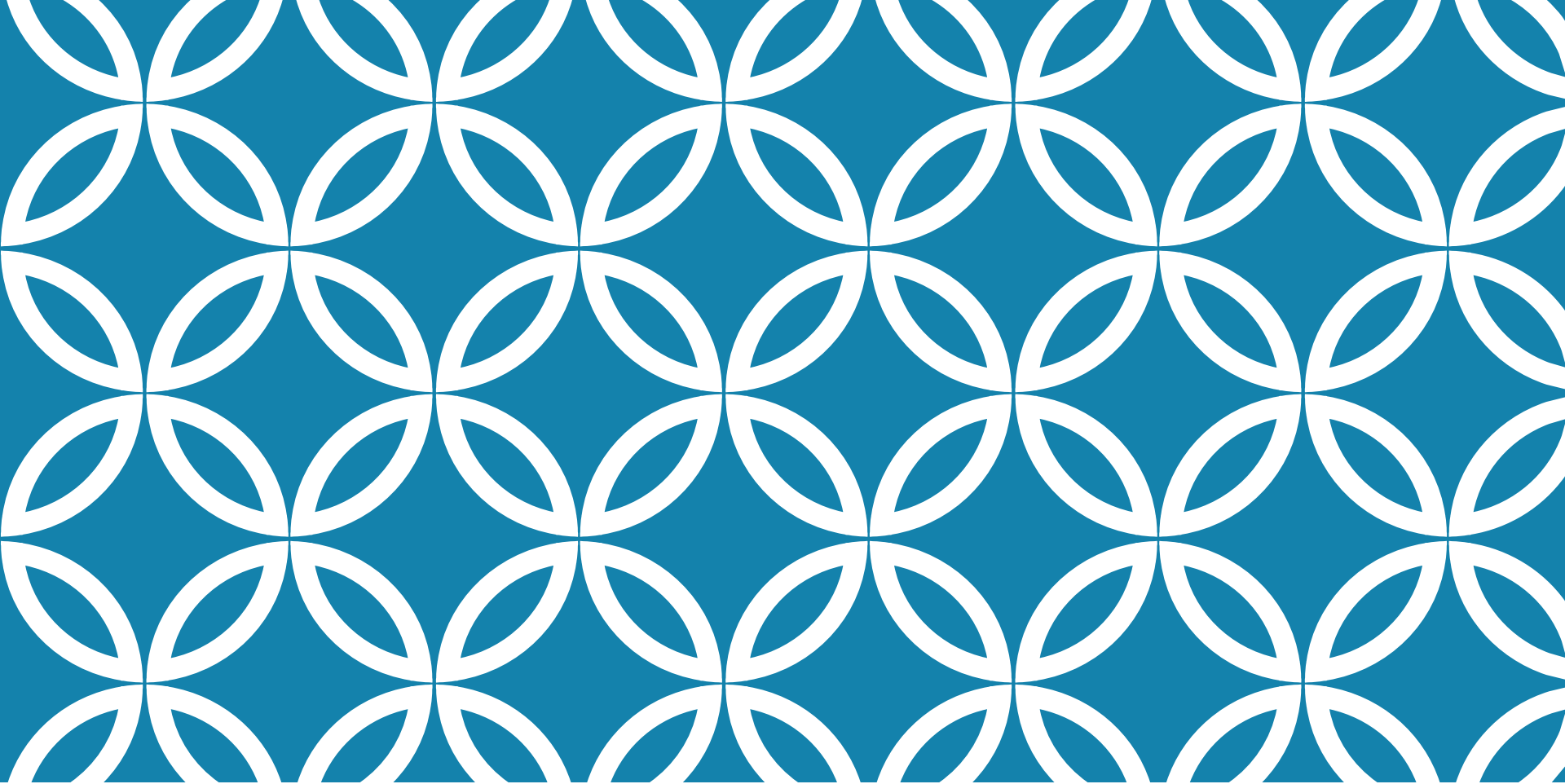
***"Urs Meisterhans"***

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Attachement: Presentation of IONOTERRA's state-of-the-art technology and its impact on mankind

NEITHER THE TSX VENTURE EXCHANGE NOR ITS REGULATION SERVICE PROVIDER (AS THAT TERM IS DEFINED IN THE POLICIES OF THE TSX VENTURE EXCHANGE) ACCEPTS RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THIS NEWS RELEASE.



# **IONOTERRA**

**A system to save lives and property**

**Earthquake  
Prediction**

# WHAT IS IONOTERRA

IONOTERRA is a Scientific system, enabling mankind for the first time to Predict & Warn population of an upcoming catastrophic Earthquake of magnitude over 4.5 in the Richter scale, at least **8** Hours in advance.

# WHAT IONOTERRA IS CALLED TO MITIGATE

## - 2008 SICHUAN EARTHQUAKE IN CHINA

48 seconds alert

69,000 people lost their lives

18,222 listed as missing

374,176 were reported injured

10 million homeless people

15 million people affected

2008 Sichuan earthquake



# WHAT IONOTERRA ADDRESSES

## GLOBAL CASUALTIES & FINANCIAL DAMAGE (2000 - 2016 STATISTICS)

Numbers of Earthquakes above 5 in Richter Scale during years 2000 – 2016:

**2,756 Earthquakes**

Cost of damages due to Earthquakes ONLY above 5 in Richter Scale during years 2000 – 2016:

**\$596 Billion Damages**

Number of People killed and injured due to Earthquakes during years 2000 – 2016:

**387,000 People Killed**

**1,500,000 People Injured**

# WHAT IONOTERRA PREDICTS

- \* **WHERE** is the Earthquake going to happen
- \* **WHEN** is the Earthquake going to happen
- \* **WHAT** Magnitude is Earthquake going to have

# PRESENT GLOBAL SITUATION IN EARTHQUAKE ALERTS

**USA** system based on sensors and SANTINEL satellites provides up to **180 SECONDS** alert.

**JAPAN** system based on network of on-shore and off-shore seismic and geodetic instruments to rapidly detects earthquakes, provide up to **120 SECONDS** alert.

**MEXICO** system consists of a series of sensors located along the coast that detect shaking from a large earthquake, provide up to **60 SECONDS** alert.

**IONOTERRA** system based on Ionosphere Radar Scanning, provide at least **8 HOURS** alert.



# HOW DOES IT WORK?

All seismic activity on earth is reflected in Ionosphere before, during and after an Earthquake.

IONOTERRA is constantly scanning a specific Ionosphere predefined region via radars triangle.

IONOTERRA developed an IP Algorithm analyzing all data coming from the Ionosonders sensors.

The IP Algorithm produces a Geo Seismic Risk Map for any monitored region, resulting with a clear cut alert in case of an upcoming Earthquake.

# BASIC FACTS-1

- **An EQ is a process - NOT a burst**
- **An EQ can be predicted by early signs (EQ seismic regime)**
  - **Thermal dynamical processes occurring in the Lithosphere**
  - **Radiative gas penetration upward in the Atmosphere**
  - **Acoustic waves accompanied upward turbulent gas flow**
  - **Seismic signs – variation of MUFs\* in the perturbed ionosphere**
- **Data-searched seismic activity**
- **The ionosphere reflects the EQ process**

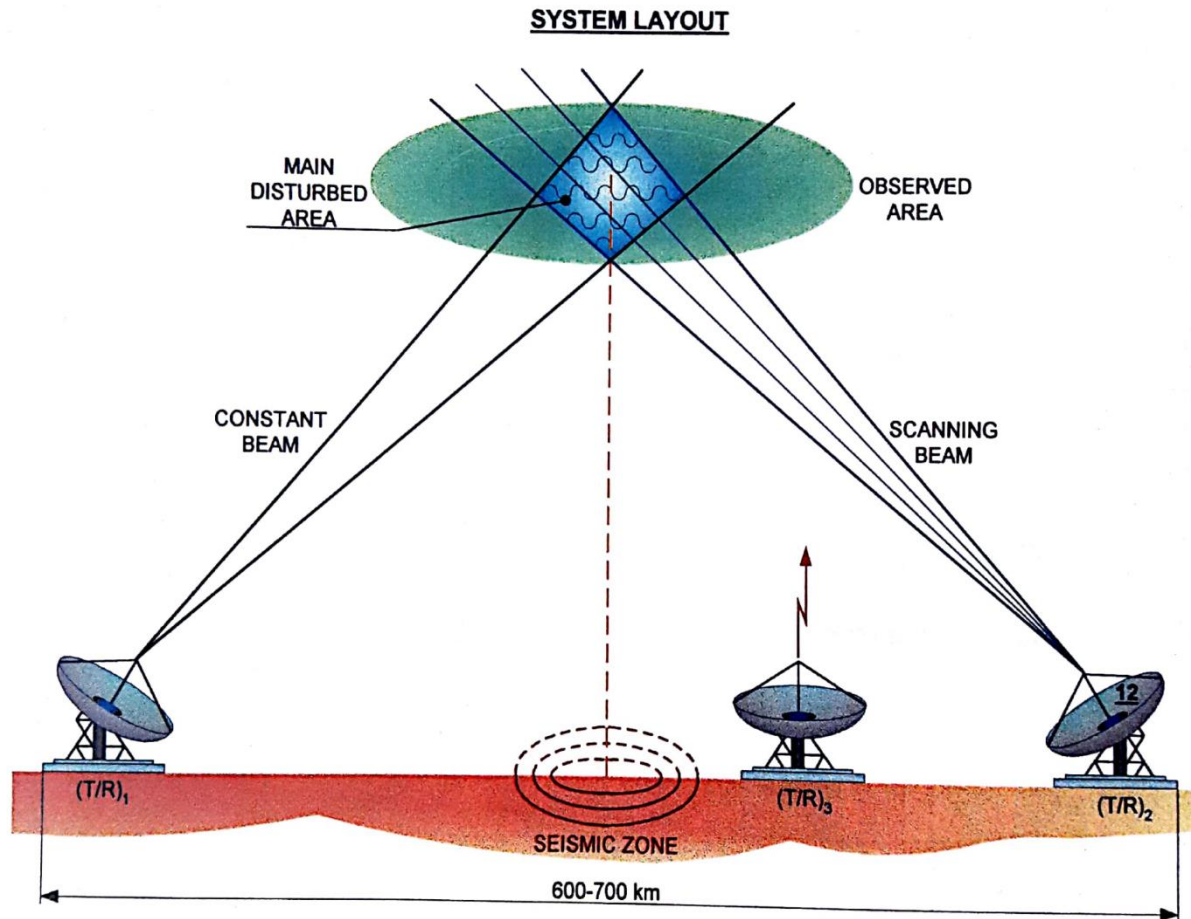
\* MUF – Max Usefull Frequencies

# BASIC FACTS-2

## EQ AND IONOSPHERE

- **There is an EQ injected plasma perturbations and acoustic waves connectivity and activity in the Ionosphere**
- **The EQ reflection in Ionosphere is part of the general activity and hard to isolate and observe**
  - **Perturbed Total Electronic Content = Clutter**
- **There are signs that are unique and owned by an EQ process only**

# SYSTEM LAYOUT



# RESEARCH STAGES AND DEVELOPMENT MILESTONES - DATA UPON REQUEST

**Stage 1 1990 - 1992 Finding the correlation**

**Stage 2 1993 - 1997 Taiwan research + US patent**

**Stage 3 2002 - 2008 Isolating the seismic anomaly 4 factors identifications**

**Stage 4 2008 - 2009 Vrancea back scatters observations**

**stage 5 2014 - 2017 Developing filtering tools**

**stage 6 2016 - 2017 Observing Vrancea with filtered tools**



**IONOTERRA**

**END**