PHILLIP ROBERT
ROE SMITHSON
Ultima Edición: 25-01-2018 12:59:58
Fecha de Envío:

PROTOTIPOS DE INNOVACIÓN CORFO - EUREKA

PARA UNA CORRECTA POSTULACIÓN A ESTE CONCURSO, DEJAMOS A CONTINUACIÓN, PARA SU DESCARGA, LOS DOCUMENTOS MÁS RELEVANTES DEL PROCESO

No olvides que el concurso cierra el 25 de enero del 2018 a las 13:00 horas y no podrás enviar tu postulación después de esa fecha y hora. Sólo se aceptarán las postulaciones enviadas antes de este plazo
Sí, entiendo esta recomendación

Refundido Bases Administrativas Generales Comité InnovaChile

El beneficiario en la plataforma de postulación en línea podrá autorizar y consentir de manera expresa que los actos administrativos relacionados con el proyecto, le sean notificados mediante el envío de una copia, al correo electrónico señalado.

Bases Técnicas Prototipos de Innovación CORFO – EUREKA

La notificación surtirá efectos desde la fecha y hora en que el beneficiario tenga acceso al acto administrativo, esto es, que el mismo quede disponible en la bandeja de entrada del correo electrónico informado.

El beneficiario se obliga a mantener actualizado el correo electrónico, y cualquier cambio debe ser comunicado a InnovaChile. Lo anterior, de conformidad a lo dispuesto en el inciso primero del artículo 19 y artículo 30 de la ley N° 19.880
Acepto notificar a correo electrónico

Correo Electrónico para Notificaciones
proe@paradigma.cl

Tipo Entidad Participante
Empresas Nacionales

ANTECEDENTES EMPRESAS NACIONALES

¿Identifique el Tamaño de su Empresa?
Micro y Pequeña (ingresos por ventas de UF 25.000 al año o menos)

Indicar tus ventas acumuladas en los últimos 12 meses del Postulante
30443244

Rut Empresa
78125420-7

Razón Social Empresa
Paradigma Ltda

Tipo de Sociedad Empresa
Responsabilidad Limitada

Página web Empresa
www.paradigma.cl

Sector Económico Empresa
Informática y Tecnologías de la Información

Año Constitución Empresa
1991

Región Empresa
RM - Metropolitana de Santiago

Ciudad Empresa
Las Condes

Calle Empresa
Alonso de Córdova

Número Dirección Empresa
5870

Teléfono Empresa
232106099

REPRESENTANTE LEGAL

Rut Representante Legal
8681945-7

Nombre Representante Legal
Phillip

Apellido Paterno Representante Legal
Roe

Apellido Materno Representante Legal
Smithson

Correo Electrónico Representante Legal
proe@paradigma.cl

Teléfono Representante Legal
982928644

¿Ha tenido participación en proyectos financiados con recursos públicos?
Sí

Si su respuesta es Sí, describa brevemente
Fondo de Cooperación Chile-Suecia Corfo Semilla Corfo empredimiento

¿Cuántos asociados participan en su proyecto?
1

Elija el tipo de asociado 1/1
Empresa Extranjera

Rut o Run
88.888.888-8

Nombre o Razón Social
InnoTel AB

Dirección Asociada
Massans Gata 18 Gothenburg

País
Suecia

Datos de Contacto 1/1

Rut Contacto
88.888.888-8

Nombre Contacto
Mattias

Apellido Paterno Contacto
Hansson

Apellido Materno Contacto
H

Correo Electrónico Contacto
mattias@innotel.com

Teléfono Contacto
467021212

Indique cuál es su contribución al proyecto y su interés en los resultados
Proof of concept of the dataless technology (InnoTel telecommunications service, SmartCaller, uses dataless callback (during the callback call setup, the SmartCaller app connects to a phone number via the InnoTel operator switch and then hangs up (involving zero costs for call setup). The Global Connect Eureka project will use this dataless technology for messaging in order to replace SMS and mobile data. This new innovation we call TMS. InnoTel has already leave in a patent application for the TMS (Swedish patent, PTC (EU patent) and U.S. patent as well. InnoTel has long experience in developing communications solutions in telecom. InnoTels will be responsible for TMS work packages in the Global Connect project, which includes. The objectives of this WP are: Design of TMS architecture: Starting point: from the beginning. Expected results: a document with technical and operational requirements and common quality attributes such as performance, security, and manageability. Developing the TMS Gateway that acts as a convertor between the central Global Connect Server and on-board devices that communicate via the TMS protocol Starting point: - a set of requirements, - a list of APIs including their specific interfaces, - an overview of the modules that together form the TMS Gateway. Expected results: a working version of the TMS Gateway. Develop a management information base (MIB) for managing the (predefined) messages and the CID field and dialed numbers. Starting point: - a set of requirements, - a list of possible predefined messages, - a list of free definable messages / fields, - a number plan structure to match the CID and the dialed numbers with the (predefined) messages. Expected results: a database that can convert the highly compressed messages using CID field and dialed numbers.

Descargue el siguiente enlace e incluya la información solicitada de cada asociado participante
Detalle_Asociado_innotel.docx

1.- Nombre del Proyecto

Global Connect

2.- Tipo de Innovación que representa su proyecto
Producto y Proceso

3.- Objetivo General del proyecto
We will develop a platform “Global Connect” that makes sea container tracking more reliable and cost effective with unique and innovative technology from InnoTel and Paradigma. The result will be used to test the tracking of containers from the largest container leasing company Seaco Global.

4.- Objetivos específicos (Máximo 5)
3 o Más

INFORMACIÓN DE CADA OBJETIVO ESPECÍFICO

1/3 Describa el Objetivo Específico
Develop the software for the module ABC router that will decide which way it will better transmit the data captured from the different sensors in the cargo container, its state and GPS location and will send it using Travelling Message System (TMS) technology that that is based in GSM mobile phone.

2/3 Describa el Objetivo Específico
Develop the Travelling Message System (TMS) server operator that receives and collects the messages from all the application processors installed in the different containers. The TMS will execute different tasks that will coordinate the capture and publication of the tracked data to the CTS.

3/3 Describa el Objetivo Específico
Develop The Container Tracking Service (CTS) that will receive and register the messages of that state of the container, GPS location and other sensor data in a block of information using Blockchain technology.

4 Describa el Objetivo Específico
To test the complete solution and obtain indicators of performance, a pilot project will be executed jointly with SEACO Global in one of the container carried by one of their ships.

5 Describa el Objetivo Específico

6.- DURACIÓN ESTIMADA DEL PROYECTO (El plazo máximo permitido por bases es de 18 meses. Proyectos con ciclo biológico de especies tratadas, podrán solicitar un plazo de ejecución de hasta 24 meses, debidamente justificado)

¿Tu proyecto se ve afectado por ciclos biológicos y por lo tanto requiere de un plazo mayor a 18 meses?

No

¿Cuántos meses necesitarás para la elaboración de tu proyecto con Corfo?
14

7.- Resumen del Proyecto
The World Bank forecasts global economic growth in 2018, as the recovery in investment, manufacturing, and trade continues, and as commodity-exporting developing economies benefit from firming commodity prices. The world commerce is increasing in complexity because of its size and cost. Studies show that more than 4 billion of US dollars of products are sent yearly and more than 80 percent of the goods consumed daily are transported by sea. The World Economic Forum indicates that a world of rapid technological change and digitization, trade policy must evolve to empower new forms of digital commerce and reduce barriers that hold back growth opportunities. One of the requirements is to define and implement a framework for steering and shaping policy developments related to e-commerce, digitization of trade and cross-border data flows nationally, regionally and globally. Additionally the cost of commercial documentation for a physical transport reaches one fifth of the total cost of transportation. Then the reduction of these barriers could increase 15% the world commerce, boosting economies and creating jobs among some studied estimations. The project goal is to increase the cross-border flow of data of cargo containers transported globally increasing the reliability and lowering the cost of the data collected, to help companies to move and track goods in digital form across international borders. The manufacturers, shippers, ocean carriers, freight forwarders, port operators and terminals, transporters and customs authorities, and consumers could benefit of this technological solution.

8. Región Principal de Ejecución
Región Metropolitana de Santiago

8.1. Región Secundaria de Ejecución
Región de Valparaíso

9.- Región de Postulación
Región Metropolitana de Santiago

10. Región Principal de Impacto
Región de Valparaíso

11.- Sector Productivo Primario
Multisectorial

12.- Código CIIU
Informática y actividades conexas

Datos Director del Proyecto

Rut
8681945-7

Nombre
Phillip

Apellido Paterno
Roe

Apellido Materno
Smithson

Fono 1
982928644

Fono 2

Mail
proe@paradigma.cl

1.- Describe la necesidad, problema u oportunidad existente en el mercado y/o la empresa que da origen al proyecto.
The Global Connect communication platform will use new technologies that have the capacity to change the current cargo tracking and fleet management market. The current players in the market all make use of the same techniques and solutions, which are based on SMS and mobile data connections for transmitting the data between the on-board GPS/GPRS/3G devices and a central platform. For communications between the platform and on-board devices, we provide the alternative of the innovative TMS and ABC Router technologies that is developed. These technologies greatly enhance reliability and cost efficiency when compared to current fleet management solutions. Messages are sent via the current 2G/3G/4G global networks without data connection, fast and reliable without any need of roaming data. This new way of sending tracking data to a location with no use of traditional communication is fully functional with implementation of algorithms that will execute predefined commands using phone calls in a end-to-end direction, i.e. “give me information about the temperature status” in a sea container. E.g., a container calls different predefined virtual numbers in TMS switch, the call hung-up before taken/received and the SIM-card in the container will never be debited any “data”. The TMS technology takes in a new way advantage of the signaling channel in the mobile network system to set up a call / message for communicating between the container and the service center / cloud. The container is encoded with its own ID and specified message that is meant to send to the cloud and register this as the calling number. On a similar way, one can communicate back to the container. The Global Connect platform will be unique in two ways: - Outstanding reliability. The Always Best Connected (ABC) Router offers the best possible method to send data, based on the user’s criteria, and provides the best connection possible (TMS, GPRS, 3G, 4G, WiFi, Bluetooth or Voice call). - Low communication costs. The patent Travelling Messaging System (TMS) technology uses the mobile networks without need of data in a new ingenious way and can be freely used all over the world. Today’s solutions are based on mobile Data or SMS. Both these solutions could be very expensive especially in roaming scenarios. Conventional tracking services apply short messages (SMS) or General Packet Services (GPRS or 3G) transmissions to deliver the required messages. None of these are actually ideally suited for the purpose. SMS represents a variety of store and forward type of messaging services, where the message is first delivered to a short message system center and the center delivers the message to the targeted endpoint. SMS messages are easy to compose and manage and they are widely used in various services, especially in tracking services. However, the delivery of short messages may be delayed due to, for example, congestion in the

network.

Adjunte un archivo (ppt, doc, rar, zip), que respalde a través de imágenes, fotos el problema/oportunidad detectado. (Opcional)

2.- ¿Qué indicador(es) permite(n) medir el estado actual de ese problema/oportunidad? (Por ejemplo: % de fallas, % de merma, costo de la energía, tiempo de producción, entre otros) ¿Qué tan a menudo ocurre este problema/oportunidad?
Lack of tracking information of the cargo container. Most of the time there is only information about the departure, and only when it arrives. High cost of data transmission, specially when roaming. Low level of realibility, low level of data transmission coverage (GPRS/3G/4G).

3.- ¿A quiénes afecta el problema/necesidad que da origen al proyecto?
In the Cargo Tracking market 1.3 million units will be remote tracking with GPRS or satellite communication system during 2018 according on the Reportlinker report: https://www.reportlinker.com/p02274776/Trailer-and-Cargo-Container-Tracking-Edition.html Berg Insight estimates that shipments of remote tracking systems with cellular or satellite communication capabilities for cargo loading units including trailers, intermodal containers, air freight cargo containers, cargo boxes and pallets reached 0.8 million units worldwide in 2015. Growing at a compound annual growth rate of 25.0 percent, the shipments are expected to reach 2.3 million units in 2020. During the same period, the installed base of remote tracking systems is forecasted to grow at a compound annual growth rate of of 23.2 percent from 2.9 million units at the end of 2015 to 8.1 million units by 2020. Innotels definition of a real-time tracking solution is a system that incorporates data logging, satellite positioning and data communication to a backoffice application. Trailer tracking can be part of fleet management solutions including both trucks and trailers. Our aim is to have 100 000 containers connected with Global Connect during 2022. Seaco Global, Maersk and Scenker is all potential customers. The global cellular IoT market is going through a massive change, driven by the Chinese government’s policies for accelerating adoption. China has set the ambitious goal of reaching 600 million NB-IoT connections in 2020, three years after the launch of the first commercial networks. Berg Insight believes that the target must be seen as realistic in light of the 150 million net additions and almost 100 percent yearly growth rate in 2017, the year before lowcost NB-IoT devices were even available. China has embarked on one of the world’s largest digital infrastructure projects that will result in billions of new connected devices in the coming five years. The massive effort will be a catalyst for reducing the price of cellular IoT chipsets and modules below US$ 2 and driving the global transition from 2G to 4G networks. At the end of Q2-2017, the operator reported 150 million IoT subscribers and a year-on-year growth rate of 87 percent. Vodafone ranked second with 59 million IoT subscribers and a yearly growth rate of 43 percent. China Unicom captured the third spot with 50 million, surpassing AT&T at close to 36 million. China Telecom grew at an exceptional 250 percent year-on-year to reach 28 million cellular IoT subscribers in the period. Deutsche Telecom, Softbank/Sprint, Verizon and Telefónica currently have in the range of 15–20 million cellular IoT subscribers, which are growing at yearly rates of 15–30 percent. IoT is starting to make a substantial contribution to the revenues of the world’s mobile operators.

4.- Describe el mercado potencial al que apuntaría el producto o servicio a desarrollar y el mercado que la empresa abordará. (Describir cualitativa y cuantitativamente)

Principales características
Berg Insight estimates that the global number of cellular M2M subscribers increased by 56 percent during 2017 to reach 647.5 million at the end of the year. Until 2022, the number of cellular M2M subscribers is forecasted to grow at a compound annual growth rate (CAGR) of 33.1 percent to reach 2.7 billion at the end of the period. We also foresee the combination of blockchains and IoT that can be pretty important within sea container tracking platforms. Blockchains give us resilient, truly distributed peer-to-peer systems and the ability to interact with peers in a trustless, auditable

manner. Smart contracts allow us to automate complex multi-step processes. The sea container hardware devices in the (IoT) tracking ecosystem are the points of contact with the physical world. When all of them are combined we get to automate time-consuming workflows in new and unique ways, achieving cryptographic verifiability, as well as significant cost and time savings in the process. We believe that the continued integration of blockchains in the (IoT) sea container tracking domain will cause significant transformations across the entire logistics industry, bringing about new business models and having us reconsider how existing systems and processes are implemented. An asset tracking example using smart contracts and IoT. A container leaves the manufacturing plant (A), reaches the neighboring port (B) via railway, gets transported to the destination port (C), and then to the distributor's facilities (D), until it reaches the retailer's site (E). , we focus on the B-C stage. The carrier of the container performs a handshake with the dock at the destination port (C) to confirm that the container is delivered to the expected location. Once that handshake is completed, it posts to a smart contract to sign the delivery. The destination port follows along to confirm reception. If the node at C does not post to the contract within an acceptable timeframe, the shipping carrier will know and can initiate an investigation on the spot. This example triggers and requires reliable messaging solutions.

Área Geográfica
World, global commerce.

Tendencias y % Crecimiento del Mercado Identificado
The World Bank forecasts global economic growth in 2018, as the recovery in investment, manufacturing, and trade continues, and as commodity-exporting developing economies benefit from firming commodity prices. The world commerce is increasing in complexity because of its size and cost. Studies show that more than 4 billion of US dollars of products are sent yearly and more than 80 percent of the goods consumed daily are transported by sea. The World Economic Forum indicates that a world of rapid technological change and digitization, trade policy must evolve to empower new forms of digital commerce and reduce barriers that hold back growth opportunities. One of the requirements is to define and implement a framework for steering and shaping policy developments related to e-commerce, digitization of trade and cross-border data flows nationally, regionally and globally. Additionally the cost of commercial documentation for a physical transport reaches one fifth of the total cost of transportation. Then the reduction of these barriers could increase 15% the world commerce, boosting economies and creating jobs among some studied estimations.

5.- CUANTIFICA EL MERCADO QUE ABORDARÁ EL PROYECTO (EN PESOS)

Mercado
100000

Describa los supuestos considerados en el cálculo del tamaño de mercado
In the Cargo Tracking market 1.3 million units will be remote tracking with GPRS or satellite communication system during 2018 according on the Reportlinker report: https://www.reportlinker.com/p02274776/Trailer-and-Cargo-Container-Tracking-Edition.html Berg Insight estimates that shipments of remote tracking systems with cellular or satellite communication capabilities for cargo loading units including trailers, intermodal containers, air freight cargo containers, cargo boxes and pallets reached 0.8 million units worldwide in 2015. Growing at a compound annual growth rate of 25.0 percent, the shipments are expected to reach 2.3 million units in 2020. During the same period, the installed base of remote tracking systems is forecasted to grow at a compound annual growth rate of of 23.2 percent from 2.9 million units at the end of 2015 to 8.1 million units by 2020. Innotels definition of a real-time tracking solution is a system that incorporates data logging, satellite positioning and data communication to a backoffice application. Trailer tracking can be part of fleet management solutions including both trucks and trailers. Our aim is to have 100 000 containers connected with Global Connect during

2022. Seaco Global, Maersk and Scenker is all potential customers.

6.- Menciona las soluciones que existen actualmente para abordar el problema u oportunidad
The following two types of companies will compete with the OctoPlus Fleet Management system: 1. Existing Cargo Tracking providers: - ORBCOMM - SkyBitz - Omnitracs - Spireon - I.D. The European trailer telematics market is considerably smaller and leading Europe-based players with 20,000– 50,000 active trailer units include Idem Telematics, Blue Tree Systems, Schmitz Cargobull and Novacom. These companies provide fleet management systems with hardware and GPS tracking services which all use mobile data (GPRS/3G/4G) and SMS. Using only mobile data and SMS is considerably less reliable,limited and more expensive than our combined solution. These companies could become customers of our complete solution or a portion of it to use our API and license our Global Connect platform. 2. Mobile operators who are offering mobile data services for the fleet management market: • Telia, Tele2, Telenor • Telefonica • Verizon • Vodafone These operators already offer carrier services/SIM cards for the fleet management market. All of these services are using SMS and mobile data for data transmission. Global Connect has two benefits: 1. More cost efficient with the dataless TMS technology 2. More reliable with the ABC Router which could transmit the message in many different ways. Mobile operators we're in contact with are also interested in improving their existing services to increase their cost efficiency and reliability. A future business opportunity will be to offer the TMS and ABC technologies to current players in the mobile operator market. As part of offering "one stop shopping" we will in the future supply a global, roaming-free SIM card. This SIM card can be used in the on-board device. In a later stage, beyond the scope of this project, we are planning to become our own virtual mobile operator (MVNO) in order to maintain further control over the usage of these SIM cards.

¿Cuantos competidores existen en el mercado?
9

7.- ¿Quiénes serían tus principales competidores y que porcentaje de participación representan?
- ORBCOMM - SkyBitz - Omnitracs - Spireon - I.D. - Idem Telematics - Blue Tree Systems - Schmitz Cargobull - Novacom.

8.- Describe quienes serán los clientes de la solución propuesta.
Maersk, PSNC, SEACO GLOBAL, CSV.

9.- ¿Qué porcentaje del mercado constituirán tus clientes potenciales?
10

10.- Indique cuales son los riesgos comerciales, ambientales, aspectos regulatorios, etc (no tecnológicos) que pudieran interferir en el desarrollo del proyecto y/o comercialización de sus resultados
Riesgos Comerciales , Riesgos regulatorios ,

Describa los riesgos comerciales
Lack of capacity to reach a deal with big players like Maersk, Seaco global, CSV,etc.

Estrategia de mitigación para abordarlos
Test the solution and share results with potential customers.

Describa los riesgos regulatorios
Require complex data from containers that could be difficult to capture or expensive to capture to comply to regulations.

Estrategia de mitigación para abordarlos
Initially limit the variables to consider in the solution trying to comply regulations.

Para abordar la oportunidad detectada:

1.- ¿Qué solución se propone?
Nuevo producto (bien o servicio) , Nuevo proceso , Mejora en producto (bien o servicio) , Mejora en proceso , Integración de tecnologías , Nuevas aplicaciones de tecnologías existentes ,

2.- Explique en que consiste su solución
Global Connect's communications platform consists of: 1) a server / cloud service consisting of: a) a TMS switch (Asterisk) with 10,000th phone number and logic for predefined messages via caller ID and local number b) an ABC routing software that selects communication path (TMS, SMS, GPRS, 3G, 4G) based on position and tariff 2) A Global Connect IoT application processor software integrates GPS / GPRS / 3G hardware that is mounted on the container for tracking. The software task is to: a) Analyze the communication path based on availability and cost via ABC Routing. b) have the ability to send messages and positions via the TMS technology. InnoTel has the main responsibility for developing software that manages the TMS technology and Paradigma software that manages ABC Routing. The position of the container will be accesible in a distributed way through the CTS Container Tracking Service that will be based in Blockchain technologies. The CTS could be integrated to Fleet Managementt systems using an API. Global Connect's prototype will be tested and evaluated by Seaco Global, the container company. The tests include getting some indicators comparing the reliability and cost of existing tracking technology with SMS and mobile data against Global Connect's technology with TMS and ABC Routing.

Adjunte un archivo (ppt, doc, rar, zip), que describa a través de imágenes, fotos o diagramas la solución propuesta.
Eureka InnoTel and Paradigma.ppt

3.- Indique cuál es el nivel de avance actual de su solución y cuáles son los desafíos que ha debido resolver
Low communication costs. The patent Travelling Messaging System (TMS) technology uses the mobile networks without need of data in a new ingenious way and can be freely used all over the world. Today’s solutions are based on mobile Data or SMS. Both these solutions could be very expensive especially in roaming scenarios

4.- ESTADO DEL ARTE

La solución se basa en:
Otro

Descripción de otros antecedentes que sustenten la solución
InnoTel has already leave in a patent application for the TMS (Swedish patent, PTC (EU patent) and U.S. patent as well.

Respecto de las tecnologías y disciplinas involucradas en el desarrollo de la solución, discuta el estado del arte
The Global Connect communication platform will use new technologies that have the capacity to change the current cargo tracking and fleet management market. The current players in the market all make use of the same techniques and solutions, which are based on SMS and mobile data connections for transmitting the data between the on-board GPS/GPRS/3G devices and a central platform. For communications between the platform and on-board devices, we provide the alternative of the innovative TMS and ABC Router technologies that is developed. These technologies greatly enhance reliability and cost efficiency when compared to current fleet management solutions. Messages are sent via the current 2G/3G/4G global networks without data connection, fast and reliable without any need of roaming data. This new way of sending tracking data to a location with no use of traditional communication is fully functional with implementation of algorithms that will execute predefined commands using phone calls in a end-to-end direction, i.e. “give me information about the temperature status” in a sea container. E.g., a container calls different predefined virtual numbers in TMS switch, the call hung-up before taken/received and the SIM-card in the container will never be debited any “data”. The TMS technology takes in a new way advantage of the signaling channel in the mobile network system to set up a call / message for communicating between the container and the service center / cloud. The container is encoded with its own ID and specified message that is meant to send to the cloud and register this as the calling number. On a similar way, one can communicate back to the container.

Cuáles son los desafíos tecnológicos que tiene que superar para desarrollar la solución
The Global Connect platform will be unique in two ways: - Outstanding reliability. The Always Best Connected (ABC) Router offers the best possible method to send data, based on the user’s criteria, and provides the best connection possible (TMS, GPRS, 3G, 4G, WiFi, Bluetooth or Voice call). - Low communication costs. The patent Travelling Messaging System (TMS) technology uses the mobile networks without need of data in a new ingenious way and can be freely used all over the world. Today’s solutions are based on mobile Data or SMS. Both these solutions could be very expensive especially in roaming scenarios. Conventional tracking services apply short messages (SMS) or General Packet Services (GPRS or 3G) transmissions to deliver the required messages. None of these are actually ideally suited for the purpose. SMS represents a variety of store and forward type of messaging services, where the message is first delivered to a short message system center and the center delivers the message to the targeted endpoint. SMS messages are easy to compose and manage and they are widely used in various services, especially in tracking services. However, the delivery of short messages may be delayed due to, for example, congestion in the network.

¿Cuál es la hipótesis que se pondrá a prueba con el desarrollo del proyecto?
Realibility: The TMS captures more data that other technologies because of higher priority communications. Cost effective: A percentage of the cost compared with the cost of transmission between GPRS, SMS and other and roaming. Cross border transparency: Accesible information across border and certified by the use Blockchain technologies.

Explique la novedad y valor agregado de la solución propuesta respecto a lo existente, enfatizando en los principales atributos diferenciadores.
The TMS technology takes in a new way advantage of the signaling channel in the mobile network system to set up a call / message for communicating between the container and the service center / cloud. The container is encoded with its own ID and specified message that is meant to send to the cloud and register this as the calling number. On a similar way, one can communicate back to the container. The Global Connect platform will be unique in two ways: - Outstanding reliability. The Always Best Connected (ABC) Router offers the best possible method to send data, based on the user’s criteria, and provides the best connection possible (TMS, GPRS, 3G, 4G, WiFi, Bluetooth or Voice call). - Low communication costs. The patent Travelling Messaging System (TMS) technology uses the mobile networks without need of data in a new ingenious way and can be freely used all over the world. - The characteristics of Blockchain are good for big networks of different business partners. It is a distributed ledger, that has a shared register of transactions

that cannot be changed in an established network and lets access trustworthy data in real time. Additionally this information can be extended as a virtual chain linked to the Blockchain achieving also this trustworthiness. In the application of this technology to digitalize the process of global commerce, a new way form of command and consent of information flow, letting multiple business partners collaborate and establish a unique joint vision of a transaction without compromising details, privacy and confidentiality. The CTS will be built based in Blockchain and it could be accessed by the business partners using a specific protocol of information exchange (API).

Cuadro Comparativo
componentes_globalconnect.pdf

5.- Respecto de los indicadores que cuantifican la oportunidad/problema (definidos en la sección oportunidad, pregunta 2) ¿cómo cambiarían sus valores si se implementa la solución propuesta?
Decrease transmission costs. Increase data transmission reliability, increase amount of data captured. Increase data transparency of cargo containers across border and certified.

6.- METODOLOGÍA

Desde un punto de vista técnico, indique cuáles son las principales variables a considerar en la resolución de los desafíos tecnológicos, su estado actual y sus valores esperados, para asegurar el éxito en el desarrollo de la solución propuesta.
Communications using TMS (Travelling Messaging System). Use of Blockchain to make data accesible across borders. Use of IoT to track sensors in a container.

Complete en el siguiente cuadro los desafíos tecnológicos descritos
Dimensiones diferenciadoras global_connect.pdf

A partir de los desafíos tecnológicos definidos, identifique cuáles son las principales actividades a desarrollar en el proyecto para resolverlos, incluyendo una descripción del plan de pruebas.
The InnoTel goal is to develop the most cost effective and reliable cargo tracking platform on the market. After finishing the project, a ready-to-sell version of the Global Connect platform will be available, including: - Web-based user accounts where customers will have a dashboard where they can: track and view vehicle data, run reports, change the settings, and add vehicles; - An onboard (GPS/GPRS/3G) device (i.e. a device that communicates the vehicle data such as: location, temperature); - An ABC routing module for receiving and sending messages; - A TMS protocol integrated in the Global Connect to make ‘dataless’ communication possible; - Data communication between the on-board device and the ABC routing module via several communication protocols (i.e. TMS, GPRS, SMS); Our aim is to demonstrate the strengths of the Global Connect platform in the pilot project with Seaco Global and also during the project find new potential customers. There 3 main components of the work to be executed by Paradigma. Develop the software for the ABC router that is based on a IoT (Internet of Things) application processor that has to be installed in a cargo container. This software will have the ability to capture the data from the different sensors, like temperature, pressure, and others also the GPS location and/or the mobile operator that is operating. From that information will send that information using the TMS (Travelling Messaging System) protocol based in GSM calls or the other transmission protocols as GPRS/3G/4G or SMS if needed. The ABC Router will be able to set up different rules for the communication depending on communication tariffs, amount of sent data and location and reliability. Develop the Container Tracking Service. The Container Tracking Service (CTS) will receive and register the messages of that state of the container, GPS location and other sensor data in a block of information using Blockchain technology. Paradigma will develop the necessary

software in order to receive from the TMS the data that has captured from the containers and will publish it using the Blockchain network and a virtual chain that is attached to it. This data will be accessible for the Fleet management systems and the different partners involved in the move of a container. To test the complete solution, a pilot project will be executed jointly with SEACO Global in one of the container carried by one of their ships.

1.- Plan de trabajo
globalconnect_project_plan.pdf

2.- Resultados Esperados a largo plazo
Innotels definition of a real-time tracking solution is a system that incorporates data logging, satellite positioning and data communication to a backoffice application. Trailer tracking can be part of fleet management solutions including both trucks and trailers. Our aim is to have 100 000 containers connected with Global Connect during 2022. Seaco Global, Maersk and Scenker is all potential customers. Generate recurrent revenues from the operation of data transmission captured from the containers and its accesibility.

¿Cuantas personas conforman el equipo de trabajo?
3

INFORMACIÓN DE CADA INTEGRANTE DEL EQUIPO DE TRABAJO

1/3 Nombre del Integrante
Phillip Roe Smithson

1/3 Clasifique según corresponda
Profesional

1/3 Profesión
Ingeniero en computación, CEO Paradigma, Gestión de Tecnologías de la Información

1/3 Grado académico
Ingeniero y Master

1/3 Cargo en la Empresa
CEO

1/3 Describe la experiencia que tiene en el ámbito del proyecto o en desarrollos similares
Mr Roe has more than 20 years experience in developing innovative solutions in the convergence of fixed and mobile Internet in Chile, Sweden and other European and Latin American countries as well more than 20 years in the Information, Communications and Technology (ICT) industry sector. He is focused in using the convergence of the fixed and mobile Internet as a tool for innovation to develop new solutions in the areas of financial inclusion and retail, now including the crypto currencies (Blockchain). Entrepreneur with more than 20 years of experience in ICT solutions from the Idea, the business or evaluation plan, partnering at international level, funding, design, architecture, development, integration to its implementation, training and diffusion, marketing, commercialization at international level. Awarded in 2007 by Corfo (Chile Government Development Agency) for the development of one of the seventy projects of more innovation in

Chile between the years 2000 and 2006.

1/3 Cantidad de horas mensuales que dedicará al proyecto
90

2/3 Nombre del Integrante
Marco Rodriguez Pérez

2/3 Clasifique según corresponda
Profesional

2/3 Profesión
Ingeniero en computación

2/3 Grado académico
Ingeniero

2/3 Cargo en la Empresa
Lider de desarrollo

2/3 Describe la experiencia que tiene en el ámbito del proyecto o en desarrollos similares
Computer Civil Engineer, University of Chile, Graduated in Management Strategic in the same University. Internship at Technological Innovation Center in Bilbao, España. Post title in History of Art Adolfo Ibáñez University. More than twenty years of experience in the areas of Development, Design of IT Solutions and in the Direction of Technological Projects in companies like, Codelco Corporative, Minera Collahuasi, Minera El Tesoro, Carozzi, Bayer Chile, and Consalud. He posees experience in mega EPCM Mining projects, as Project Information Manager (Conga, Andina, Quellaveco, La Granja, Proyecto Desarrollo Los Bronces, Angloamerican).

2/3 Cantidad de horas mensuales que dedicará al proyecto
180

3/3 Nombre del Integrante
José Fontirroig

3/3 Clasifique según corresponda
Profesional

3/3 Profesión
Ingeniero en computación

3/3 Grado académico
Ingeniero

3/3 Cargo en la Empresa
Desarrollador de software

3/3 Describe la experiencia que tiene en el ámbito del proyecto o en desarrollos similares

Ingeniero en computación con más 20 años de experiencia. Desarrollador de aplicaciones móviles y IoT.

3/3 Cantidad de horas mensuales que dedicará al proyecto
180

INFORMACIÓN DE LA EMPRESA(S) Y ASOCIADOS

Describa una breve reseña de la empresa postulante
PARADIGMA Ltda., es una empresa tecnológica privada localizada en Santiago de Chile que se ha comprometido consigo mismo en proveer soluciones completas para agentes y consumidores finales con el deseo de promover la viabilidad de la inclusión financiera y el comercio global, incluso en el entorno rural mediante las tecnologías de dispositivos móviles, computadores, la nube de Internet y la confiabilidad que otorga el aplicar la emergente tecnología Blockchain. Este compromiso involucra caminar en el sendero de desarrollo de innovaciones tecnológicas para confrontar la exclusión y la pobreza y el comercio global. Los objetivos son desarrollar, probar, evaluar y diseminar innovaciones basadas en las Tecnologías de la Información y las Comunicaciones (TIC) para promover la inclusión financiera y la construcción de activos entre individuos de bajos ingresos, MyPEs y sus familias a gran escala. Al mismo tiempo, PARADIGMA brinda el servicio de apoyo para asegurar la continuidad operacional y seguridad de la Infraestructura de Internet, comunicaciones unificadas, redes, servidores, servicios en la nube, almacenamiento de datos, computadores u dispositivos móviles para instituciones y empresas.

Cuáles son los principales productos o servicios que actualmente ofrece al mercado
- Aplicaciones móviles o computadores que se usan en forma distribuída asegurando confiabilidad y trasparencia con la tecnología emergente de Blockchain. - Solución móvil para Ejecutivos de Servicios Financieros en Terreno. - Solución móvil para Administración Financieros para individuos o clientes. - Solución para Cambio de Moneda.

DESCRIBA BREVEMENTE ACERCA DE SUS CAPACIDADES TÉCNICAS, COMERCIALES Y DE INFRAESTRUCTURA DE LA EMPRESA EN RELACIÓN AL PROYECTO.

Capacidades Técnicas de la beneficiaria
Our expertise is the development of mobile and server software solutions based in the centralized and decentralized Internet based in Blockchain technologies. Paradigma is trying to develop infrastructure technological solutions that could lead to generate revenues from its services. One of the economic sectors of development is the financial sector focusing in the increase of financial inclusion. Other economic sector is logistics of global commerce. Paradigma Ltda has had the experience of developing different mobile software applications since 2001 and internet server software applications since 1995. In 2005, Paradigma in a joint venture with the swedish company Blue2Space AB specialized in the development of Bluetooth communications devices launched at CEBIT, Hannover, Germany an innovative software solution called Paradigma TimeMachine, a social network solution to publish and share messages, photos, videos and other media files from mobile phones and computers in the Internet. Nowadays, similar to Facebook. In 2011, Paradigma started the development of mobile and Internet solutions for the branchless banking, and in 2014, joint ventures with the organization Microfinance Opportunities from Washington DC, USA, to develop solutions to help the increase of the level of financial inclusion using mobile and internet technologies. In the same path of development, Paradigma since 2016 has been researching and developing these solutions applying Blockchain technologies.

Experiencia Comercial de la beneficiaria
More that 20 years of operation in the field Information Technology and Comunications and with international commercial experience in Latinamerica, US, Europe and Asia-

Infraestructura de la beneficiaria para el desarrollo del proyecto
Main office is located at Alonso de Córdova 5870 of. 1216, Las Condes, Chile.

Comente acerca de su capacidad financiera para realizar los aportes al proyecto.
Paradigma has monthly recurrent revenues due to the support and continue operations of a set of customer.

Resumen de Antecedentes Financieros
Cuadro_Resumen_Financiero_Beneficiario_paradigma.xlsx

INFORMACIÓN DE LA CONTRAPARTE EXTRANJERA

Describa una breve reseña de la(s) entidad(es) extranjera(s) participante(s) (empresa, universidad, etc.)
The team behind InnoTel has great expertise in software development, mobility and telecom. InnoTel is also a global company with offices in Sweden, Macedonia as well as a board member based in Silicon Valley. InnoTel has in the last couple of year winning following awards: - Red Herring Europe Top 100 (each year is Red Herring short-list of 100 technology companies and in 2014 was InnoTel winning this award) - Ny Teknik 33 list (each year is Ny Teknik short-list of 33 companies with biggest future potential) - STING Day Award (Sting Day is the leading startup conference in the Nordic. InnoTel was pitching there idea against 9 other ICT companies and get 4 of 5 investors vote. The first OTT (Over The Top) service InnoTel was launching in the market was the enterprise calling services SmartCaller. A breakthru was in 2017 when Sandvik and Seco Tool sign agreement and would like to rollout the services to 17 000 users globally. The yearly saving ffor Sandvik & Seaco Tool with SmartCaller will be around 1.3 MEURO. The team behind InnoTel is innovative and has been involved in producing 8 different patents within the IT and Telecom industry. The competence around the innovation of TMS is important for the success of the Eureka project Global Connect.

Cuáles son los principales productos o servicios que actualmente ofrece al mercado
The first OTT (Over The Top) service InnoTel the enterprise calling services SmartCaller.

Incluya una breve descripción técnica de la contribución tecnológica al proyecto de cada una de las entidades participantes extranjeras
The InnoTel goal is to develop the most cost effective and reliable cargo tracking platform on the market. After finishing the project, a ready-to-sell version of the Global Connect platform will be available, including: - Web-based user accounts where customers will have a dashboard where they can: track and view vehicle data, run reports, change the settings, and add vehicles; - An onboard (GPS/GPRS/3G) device (i.e. a device that communicates the vehicle data such as: location, temperature); - An ABC routing module for receiving and sending messages; - A TMS protocol integrated in the Global Connect to make ‘dataless’ communication possible; - Data communication between the on-board device and the ABC routing module via several communication protocols (i.e. TMS, GPRS, SMS); Our aim is to demonstrate the strengths of the

Global Connect platform in the pilot project with Seaco Global and also during the project find new potential customers.

1.- ¿Quiénes serán los usuarios de tu producto o servicio?
El usuario es diferente al cliente

2.- Describe al usuario de tu producto o servicio y por qué preferiría esta solución.
The project goal is to increase the cross-border flow of data of cargo containers transported globally increasing the reliability and lowering the cost of the data collected, to help companies to move and track goods in digital form across international borders. The manufacturers, shippers, ocean carriers, freight forwarders, port operators and terminals, transporters and customs authorities, and consumers could benefit of this technological solution.

3.- Con respecto a los beneficios económicos para tu empresa, si se implementará la innovación propuesta, indicar si corresponden a
Aumento de Ingresos ,

En relación a su respuesta anterior, cuantifique, dimensione y fundamente los beneficios económicos en comparación a una situación base.
Provide a recurrent service for the above customers.

4.- Adjuntar planilla de cálculo de respaldo de los beneficios económicos
sales_projections.xls

5.- Describa el cambio de posicionamiento que experimentará la empresa con el desarrollo de esta solución.
Provide jointly Paradigma and Innotel a global service of tracking cargo containers.

6.- Indica la forma en que se llegará al mercado:
Venta directa , Venta a través de terceros ,

7.- Identifique cuáles son las alianzas claves para su proyecto. ¿Son alianzas vigentes o por concretar?
Letter of intent with Global SEACO.

8.- ¿A través de qué canal adquirirás nuevos clientes y/o usuarios?
Direct contact.

9.- Describe las principales actividades claves para la ejecución de tu modelo de negocio.
After the succesful test, there will be comercial plan to address customers.

10.- Con respecto a los principales recursos claves de tu negocio, indicar las categorías prioritarias:
Intelectual , Humanos ,

Describa sus principales recursos claves.
Software development expertise.

11.- ¿Cuál es tu Modelo de ingresos?.
Tarifa proporcional al uso (de un servicio) , Subscripción ,

Describa y fundamente su elección
Data captured from the container. Data accesability from the CTS.

12.- Costos asociados al Negocio
En menor medida que mis ventas

13.- ¿Qué porcentaje del precio de tu producto/servicio correspondería a margen o utilidad?
30

14.- ¿Qué alternativas de financiamiento explorará para concretar el plan de comercialización y/o escalamiento una vez concluido el proyecto?
Revenues from initial customers.

15.- Protección de la propiedad intelectual del producto o servicio.
El producto o servicio tiene patente en trámite

En el caso que posea una patente Indique una estimación en los países que dicho resultado debiera también protegerse
Sweden and Chile

16.- Indique si tiene evidencia de algún potencial comprador interesado en su solución
Sí

Adjuntar documento
Letter of Intent Global Connect och Seaco.pdf

Consideraciones generales
Declaro conocer el subnumeral 3.4 de las bases administrativas generales.

1.- MONTO SOLICITADO A CORFO

1.1.- El monto solicitado a Corfo no puede sobrepasar los $60.000.000, y su porcentaje del costo máximo del subsidio al que se puede optar según el punto 4.1 (Subsidio Innova Chile) de las bases técnicas.
Entiendo la restricción del monto solicitado a Corfo

1.2.- Monto Solicitado a Corfo:
60000000

2.- APORTE PARTICIPANTES AL PROYECTO

2.1.- El monto que los participantes aportarán al proyecto se deberá ajustar al punto 4.2 (Aportes participantes) de las bases técnicas.

Declaro conocer esta restricción

2.2.- Aporte Valorizado (NO pecuniario) al Proyecto
0

2.3.- Aporte Pecuniario al Proyecto:
25910000

3.- MONTO COSTO TOTAL DEL PROYECTO

3.1.- Monto Costo Total del Proyecto
85710000

4.- Adjunte archivo de detalle de presupuesto del proyecto
Budget Eureka InnoTel and Paradigma_rev1.xls

Anexo Nº 1: Adjuntar Antecedentes legales del beneficiario postulante, de acuerdo al numeral 7.5 de las bases técnicas.
paradigma_ltda_escritura_y_protocolizacion_sociedad.pdf

Anexo Nº2: Antecedentes Financieros del beneficiario postulante (y asociados si es que corresponde).
decl_renta_paradigma_2017.pdf

Anexo N°3: Adjuntar copia de la primera o alguna factura, boleta de ventas o servicios que tenga la antigüedad mínima requerida en las bases
paradigma_fe_01_a_darcoplan.pdf

Anexo Nº 4: Adjuntar antecedentes curriculares de los principales profesionales de la beneficiaria chilena que participarán en el proyecto
CV_Phillip_Roe_english_ict_rev7.pdf

Anexo N°5: EUREKA Project Application Form (formulario EUREKA).
Eureka Chile projectform signerad.pdf

Anexo N°6: Adjuntar Final consortium agreement (Acuerdo de cooperación entre las partes) suscrito o a suscribir).
Cooperation agreement Eureka Chile sign InnoTel & Paradigma.pdf

---

Anexo 7: Adjuntar Declaración jurada firmada por el representante legal de la beneficiaria postulante chilena.
decljurada-partic.pdf

La información recopilada en la siguiente encuesta solo será utilizada por InnovaChile para realizar estudios y evaluaciones respecto a la efectividad de sus programas que faciliten la mejora permanente de la calidad de estos.

Esta encuesta se divide en dos secciones. La primera, sobre características del proyecto que su empresa está presentando. La segunda, sobre prácticas y características de su empresa.

INFORMACIÓN SOBRE EL PROYECTO

1. ¿Cuál o cuáles de los siguientes describen de mejor manera el (los) resultado(s) final esperado de su proyecto?
Introducir un nuevo bien al mercado , Ofrecer un nuevo servicio al mercado , Mejorar de manera significativa alguno de sus productos (bienes o servicios) , Modificar la estructura organizacional para el desarrollo de nuevos o mejores bienes y servicios , Un nuevo o significativamente mejorado método de logística, entrega o distribución para sus insumos, bienes o servicios ,

2. De la siguiente lista ¿Cuál es el PRIMER objetivo de este proyecto?
Ampliar la gama de bienes y servicios

3. De la siguiente lista ¿Cuál es el SEGUNDO objetivo de este proyecto?
Llegar a mercados internacionales

4. De la siguiente lista ¿Cuál es el TERCER objetivo de este proyecto?
Aumentar la participación de mercado

INFORMACIÓN SOBRE LA EMPRESA

1. ¿Ha recibido financiamiento de Innova CORFO antes del año 2017?
Sí

2. Indique una estimación (en pesos) de las Ventas Brutas anuales de la Empresa para cada uno de los últimos 3 años.

2014
0

2015
0

2016
0

3. Distribuya porcentualmente sus ventas del año 2016, de acuerdo al mercado geográfico

Dentro del País
100

A nivel Internacional
0

4. ¿Qué porcentaje de sus ventas provino de su cliente principal el año 2016?
20

5. ¿Qué porcentaje de sus ventas provino de su producto principal el año 2016?
70

6. ¿Su empresa cuenta actualmente con una gerencia, departamento o laboratorio con dedicación exclusiva para el trabajo y desarrollo de proyectos de I+D+i (Investigación y Desarrollo o Innovación)?
No

7. ¿En su empresa la innovación es parte de la estrategia corporativa de la empresa, hay un gerente o director preocupado de la gestión de la innovación?
Sí

8. Indique una estimación del personal contratado y subcontratado con que su empresa realizó sus operaciones hoy en día.

Educación Básica

Mujeres
0

Hombres
2

Educación Media

Mujeres
0

Hombres
2

Título profesional o licenciatura

Mujeres
0

Hombres
2

Magister

Mujeres
0

Hombres
1

Doctorado

Mujeres
0

Hombres
0

9. Durante los últimos 3 años ¿Ha realizado alguna de las siguientes actividades, con el objetivo de introducir o desarrollar nuevos bienes, servicios, procesos, prácticas organizacionales o de marketing? Si no ha gastado en ninguna ponga en monto 0.

Adquisición de maquinaria, equipos y software
5

Adquisición de otros conocimientos externos (patentes, licencias, know-how)
4

Capacitación para la innovación (formación interna o externa de su personal, destinado específicamente al desarrollo o introducción de productos o procesos nuevos o mejorados de manera significativa).
3

Introducción de innovaciones al mercado (incluye investigación de mercado y campañas de publicidad)
4

Diseño (se refiere a la forma y aspecto de los productos y no a sus especificaciones técnicas u otras características funcionales o de utilización) para la innovación.
3

Otras actividades (instalación y puesta a punto de nuevos equipos, puesta en marcha de la producción u otros)
0

10. Indique el tipo de cooperación y su procedencia
Proveedores de equipos, materiales, componentes o software , Clientes o consumidores ,