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Rebecca Harnagel

California High-Speed Rail Authority
770 L Street, Suite 620 MS 2
Sacramento, CA

September 23, 2015

Expression of Interest Transmittal Letter (RFEI HSR#15-02)

Dear Ms. Harnagel,

Elecnor, as a major contractor company specialized in the electric sector has extensively contributed to the development of the High Speed Rail Systems in other countries. Following our international activity deployment, we'd we glad to add our experience for a successful implementation of the ambitious High Speed Rail Program in California.

The California High Speed Rail Authority issued a Request for Expressions of Interest for the Delivery of an Initial Operating Segment (RFEI HSR#15-02).

Attached to this letter Elecnor is submitting an Expression of Interest as an answer to the RFEI. The EOI is submitted individually by Elecnor as a potential leader of a consortium interested in taking part in the procurement process as defined in the EOI.

For further communication concerning this RFEI my address as contact person is

Fernando de Marcos

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We keep at your disposal for any additional information you would consider of interest.

Sincerely,

Fernando de Marcos

ELECNOR

EXPRESSION OF INTEREST (EOI)

CHSRA RFEI HSR#15-02

FOR THE DELIVERY OF AN INITIAL OPERATION SEGMENT

September 23, 2015

ELECNOR

EXPRESSION OF INTEREST (EOI) TO

CHSRA RFEI (HSR#15-02)

FOR THE DELIVERY OF AN INITIAL OPERATING SEGMENT

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❖ Purpose of this Expression of Interest (EOI)

➢ Introduction

The California High Speed Rail Authority published a Request for Expressions of Interest for the Delivery of an Initial Operating Segment (RFEI HSR 15-02) on June 22, 2015. The main target of this RFEI is to receive Expressions of Interest (EOIs) from qualified firms interested in participating in the IOS in order to refine the Authority´s delivery strategy through consultation with the industry.

The purpose of this EOI submitted by Elecnor, a major electrification builder company with a wide activity in both the railways and the international fields, is to provide feedback to the Authority regarding optional delivery models according to its experience. This models include technical, commercial, financial and procurement aspects with the main goals of reducing costs and accelerating schedules.

➢ Elecnor experience as a specialized company in the international railways field

Elecnor is one of Spain's leading companies in engineering, the development and construction of infrastructures projects, renewable energies and new technologies.
Since its operations began in **1958**, Elecnor has gradually diversified its activities, extending to different sectors which currently fall into three major business areas:

- *Elecnor Infrastructures*
- *Elecnor Renewables*
- *Elecnor Concessions*

Its international expansion has resulted in a stable presence in **33 countries**, through both investee companies and subsidiaries located abroad and through projects generated directly from Spain.

At the present time, its **13,000 professionals** demonstrate the company's values of innovation, sustainability and total quality in all of its actions

Infrastructure is one of the traditional business areas in which Elecnor has the necessary means to comprehensively manage all types of projects.

As a comprehensive project manager, the company tackles viability studies, basic and specialised engineering, construction, supply, installation and assembly, start-up, operational services and maintenance.

Apart from Elecnor's traditional activity, a number of subsidiaries with business segment expertise operate in this area, helping to enrich the comprehensive service capacity Elecnor provides its customers. These specialised subsidiaries are Hidroambiente, Ehisa, Adhorna and Audeca.

In the United States, **Elecnor Inc**, headquartered in Chino, CA, is GENERAL CONTRACTOR and parent company of 2 subsidiaries:

- **Belco**, in the West Coast:
  Engineering and constructor company operating in the electricity sector.

- **Hawkeye**, in the East Coast:
  Engineering and constructor company operating in the electricity, natural gas and telecom industries.

Research and development (R&D)

ELECNOR has participated very actively in the *design and development* of the new EAC-350 (350 km/h speed) Overhead traction system which is essentially Spanish Technology

References

1) Orense – Santiago HSR Line

- Catenary C-350, fully developed, installed and tested by ELECNOR.
- Turn Key 226 km catenary.
- Max speed: 350 Km / Hour
- Power Supply: 2 x 25 kV AC

2) Madrid – Valencia HSR Line

- Elecnor participated in the engineering, procurement and commissioning of eight power substations. 400 kV / 2x25 kV AC

3) Madrid – Barcelona HSR Line

- Catenary C-350, fully developed, installed and tested by ELECNOR.
- Turn Key 672 Track kilometers
- Max speed: 350 Km / Hour
- Power Supply: 2 x 25 kV AC

4) Madrid – Barcelona HSR Line

- Elecnor participated in the engineering, procurement and commissioning of two power substations. 400 kV / 2x25 kV AC

5) Cordoba – Malaga HSR Line

- Catenary EAC-350.
- Turn Key 155 Track kilometers: 155.
- Max speed: 350 Km / Hour
- Power Supply: 2 x 25 kV AC

❖ Project approach and alternative options to deliver the program

➢ CHSRA main goals

Civil works are currently under progress in the First Construction Segment (FCS) along Central Valley while environmental studies and preliminary engineering are also under execution in the other sections of the line. In this process, the main targets that are considered within this EOI is to identify opportunities for:

- cost savings and private financing
- construction, commissioning and line operation start schedule acceleration
- simplified technical interfaces management

All of them, considered in the frame of an overall implementation efficiency, are the main goals for the CHSRA mentioned in the RFEI.

➢ **RFEI suggested model**

In order to achieve these objectives, the RFEI includes a delivery strategy structured around a number of procurements covering design, build, finance and maintenance. They would be, in summary, as follows:

- Operation Concession
- Rolling Stock acquisition
- Passenger Terminals Concession
- IOS South (DBFM including civil work, track, traction energy and signaling/communication equipment)
- IOS North (DBFM including civil work, track, traction energy and signaling/communication equipment)

➢ **Alternative delivery models according to international trends**

Along the last forty years more than forty thousand kilometers of high speed lines have been started construction, most of them are now under operation. Different procurement models have been applied in different countries and different levels of efficiency have been achieved. As a consequence of such a wide activity an important experience is now available. According to it, in the following chapters are included some suggestions to translate this experience into efficiency to match the targets of the CHSRA.

The suggested alternative model is the consequence of taking into account a number of successful criteria, combined with a contract structure in the frame of a consistent implementation management.

- Criteria

In order to get an efficient procurement process, a number of successful criteria can be outlined coming from the experience achieved in different high speed rail

networks recently built and currently under reliable and high performance operation. A number of them are listed as follows:

- **Independent treatment of main technical subsystems**

  Railways systems consist on the integrated combination of a number of technical subsystems most of them of a material nature (infrastructure, track, electrification, signaling, ...). For each of them specific procedures and technics have to be applied. Professionals and companies are specialized on particular subsystems. Defining independent contracts for building each of them is consistent with these facts and introduces a higher level of efficiency.

- **Adapting the contracts segment length to each subsystem features**

  The construction of each subsystem has a specific output according to the features and technics that have to be applied. According to this fact and to the nature of a railways line, the segment length of the contracts can be optimized for the different subsystems. Segment lengths defined for each subsystem usually contribute to an overall higher efficiency

- **Adjusting the size of the financing packages**

  Financing one of these major infrastructures has to be approached case by case taking into account a wide number of parameters. The size of the finance package is among the most relevant ones. As a general rule, can be said that the bigger is the amount the more difficult is to manage the financing.

- **Reducing the contract size to enhance the competition**

  Building each subsystem efficiently requires specific skills from professionals and companies. In the international field there are available a number of companies specialized and equipped to perform a high quality construction for each of them. In order to optimize the contracting process a proper balance has to be reached combining the number of contracts to be managed and their sizes. Sometimes very large contracts, that simplifies in some extent its management,

are introducing limits in the competition as there could be a reduced number of companies able to handle such huge contracts.

- **Technical interfaces clear definition in order to simplify its management and minimize uncertainties**

  The railways is a complex system composed by a number of technical subsystems. One of the keys to design and build a highly performance high speed line is to properly solve the technical interfaces between components and subsystems. As far as they can't be avoided, what is important is to clearly identify them and define how to proceed to get an integrated system. From the point of view of the procurement structure a clear definition could be based on specific contracts to design and build specific subsystems. This means that technical interfaces are clearly defined by different contracts.

Contracts structure

Reviewing the international experience related to high speed lines design, build and operation different contract structures can be found and different levels of efficiency have been reached. One of the most clear structures and with a good efficiency record is the one that assigns contracts by technical subsystems. According to this criterion a possible general contracts structure would be as follows:

- Operation
- Rolling stock
- Stations and passenger terminals
- Signaling, commnications and traffic control
- Electrification
- Track
- Civil works

All of them could be involved in some extent in the private financing approach consistently with the currently available sources of funds. The level of financing and

the specific risk transfer included in each contract –or group of contracts- for each subsystem would be defined in more detail in a further stage.

- Implementation management approach

The implementation of the line has to be conceived to match the main goals of the CHSRA, these are: accelerating the line delivery; saving costs and involving private financing; and simplifying technical interfaces management. In order to meet these targets and optimize the overall process the line implementation can be approached taking into account some main implemetation criteria and a consistent combination of segments and contracts by subsystems as it has been mentioned. A summary of this implementation strategy could be described as follows:

- **Main implementation criteria**

  - **Simultaneous construction of ION and IOS.** San Francisco to Los Angeles is an outstanding corridor for passenger transportation. Operating it as a single piece will bring the highest level of return and provide the full sense to the Project.
  - **Accelerate the First Construction Segment (FCS) in Central Valley**. This is the first section of the line under construction. The environmental procedures are cleared and the ROW is increasingly available. Taking advantage of these facts is extremely valuable. Keeping –or speeding up- the construction rythm on this segment will allow to deliver an enough length of line for testing and will help developing skills to design, build and start maintainig all the different technical subsystems
  - **Parallel advance in more than one segment and subsystem**. The fact of including private financing in most of the contracts will allow to mobilize funds enough to activate works related with different subsystems along a number of segments simultaneously

- **Line sectoring**

  In order to establish a clear and easy number of segments according to the main criteria of considering the line as a single piece (from San Francisco to Los Angeles), taking advantage at the highest level of having the FCS currently under construction and considering works simultaneity the following sections could be considered:

- Segment 1: San Francisco – Fresno (starting point of FCS)
- Segment 2: Fresno – Bakersfield (FCS)
- Segment 3: Bakersfield (ending point of FCS) – Los Angeles

The San Francisco to San Jose subsegment, included in Segment 1, would be considered specifically according to the fact that it's a regional line under current operation to be incorporated within the new high speed line with a blended concept.

- **Contracts typology and sectoring**

According to the main criteria described and the procurement strategy outlined, a first approach to the contracts typology and segments to be applied could be as following:

- Civil Works.
    - Segment 1: DBFM contract type. One contract or more than one contract by subsegments
    - Segment 2: Design and Build contract type. Three contracts by subsegments currently under design and construction or at the last awarding step
    - Segment 3: DBFM contract type. One contract or more than one contract by subsegments

- Track
    - Segment 1: DBFM contract type. One contract or more than one contract by subsegments
    - Segment 2: Design and Build contract type. One contract or more than one contract by subsegments
    - Segment 3: DBFM contract type. One contract or more than one contract by subsegments

- Electrification

  According to the technical nature of this subsystem and the technics and procedures involved in the construction, two options can be considered:

  - Segment 1 (from San Jose) + Segment 2 + Segment 3, one single DBFM contract
  - Segment 1 (from San Jose) / Segment 2 / Segment 3, three DBFM contracts

  The works would include the overhead catenary system, substations and ancillary components.

  In order to consider a global acceleration of the program, the option consisting in a single contract for the whole line would start contracting the electrification for the Segment 2 with a clause to extend the contract to segments 1 and 3. A recent and relevant actual contract for this subsystem is described below.

- Signaling, communications and traffic control

  According to the technical nature of this subsystem and the technics and procedures involved in the construction the following approach is considered:

  - Segment 1 + Segment 2 + Segment 3, one single DBFM contract

❖ Answers to the Questions included in the RFEI

1. *Is the delivery strategy (i.e., combining civil works, track, traction power and infrastructure) likely to yield innovation that will minimize whole-life costs and accelerate schedule?. If so, please describe how. If not, please recommend changes to the delivery strategy and describe how those changes will better maximize innovation and minimize whole-life costs and Schedule*

High speed rail lines are major infrastructures with a high level of technical complexity as they involve a wide number of different technics necessary for a safe and reliable operation. They can be implemented with different approaches. In the last decades thousands of kilometers have been commissioned and are currently under operation in a number of countries in different continents.

While the technical components of the line are showing simmilarities in all the networks, the implementation strategy for different lines in each country is very sensitive to the local market conditions and the funding structure of the line. This last parameter plays a key role concerning the procurement structure.

Most of the high speed lines currently in operation or under construction –more than 95% in terms of length- have been funded by the regular public sources while there is a limited experience on lines involving private financing under a PPP model. The fact of requiring private financing has a main impact on the conception of the procurement strategy.

In the particular case of the line we're considering, the first one of the California High Speed Rail Program, and according with the actual funding sources private financing is necessary to accelerate the time schedule. This kind of funding structure introduces some constraints but could open also opportunities that could be taken into account. The main and first consequence on the procurement process is the time length of the contracts. This means long contract periods related with the amortization of the infrastructures, that usually means some decades.

On the other hand this long term contracts open the option to get the builder involved with the additional role of carrying out the maintenance activities. This multiple role could be a way to optimize the life cycle cost and to bring a higher level of availability of the line.

According to the international experience, this integrated delivery model – design-build-maintenance – can be maximized if the contracts are following a natural structure

defined by the technical subsystems that integrate the railways system. These are: civil works, track, electrification, signaling and communications, stations, rolling stock, ... The market layout, the companies, are organized in most of the geographies following these technical specialties.

As a first consequence of this, it could be said that independent DBFM contracts for the different technical subsystems would bring more benefits than disadvantages in an overall balance even if the interfaces management is considered.

Regarding the segmenting criterion, there are multiple approaches with the target of accelerating and optimizing the process. All of them have to take into account, at least, two major facts. The first one is that the sooner is the full line – this is San Francisco-Los Angeles – in operation the higher is the profitability of the Project. The second one is that the works have actually started time ago in the FCS (Central Valley) with the actual value that means.

In a first approach, this would mean that, in order to accelerate the program, works would extend from the FCS and to get an overall higher profitability will be covering the full length of the line, from end to end where the main demand is expected.
Consistently with this approach a general sequencing of the implementation could be summarized as follows:

- **Segmenting**
    - Segment 1: San Francisco – Fresno (start point of FCS)
    - Segment 2: FCS
    - Segment 3: Bakersfield (end point of FCS) – Los Angeles

- **Stage 1**
    - Segment 2. Track, Design and Build contract
    - Segment 2. Electrification, DBFM contract with an optional clause to be extended to Segment 1 and Segment 3
    - Segment 2. Sinaling and communications, DBFM contract with an optional clause to be extended to Segment 1 and Segment 3

- **Stage 2**
    - Segment 1. Civil works, DBFM contracts

    - Segment 3. Civil works, DBFM contracts

- Rolling stock purchase contract

- **Stage 3**

  - Segment 1. Track, DBFM contracts
  - Segment 3. Track, DBFM contracts

- **Stage 4**

  - Segment 1. Electrification, DBFM contract extension or new procurement
  - Segment 3. Electrification, DBFM contract extension or new procurement
  - Segment 1. Signaling and communications, DBFM contract extension or new procurement
  - Segment 3. Signaling and communications, DBFM contract extension or new procurement
  - Stations and passenger terminals, DBFM contract

- **Stage 5**

  - Services operator concession contract

2. *Does the delivery strategy adequately transfer the integration and interface risk associated with delivering and operating a high-speed rail system?. What are the key risks that will be borne by the State if such risk transfer is not affected?. What are the key risks that are most appropriate to transfer to the private sector?.*

   The interface risk has a mere technical nature. This means that it can be solved with different approaches with the only requirement of applying the proper organization and qualified resources. One option could be by integrating most of the subsystems in a single contract as suggested. This contract structure could bring, in the other hand, some dysfunctions derived from the different profile of the companies involved in these large consortia. Other well known option would be structuring the contracts by subsystems and take care of the of the interface management from the contracts technical requirements and an additional independent control.

This technical risk is very suitable to be transferred to the private sector by means of a detailed list of requirements and a continuous overview of the process by a highly skilled external entity. In the perspective of DBFM contracts is consistent to consider the availability concept.

Other main risk in this kind of projects is the demand risk. It's common and appropiate as an option to include it in some extent specially in the contract with the operator of the services.

Both the technical and demand risks are usually transferred to the private side on a PPP model frame

3. *Are there any other components of a high-speed rail system that should be included in the scope of work for each project (e.g., rolling stock, train operations, stations)?. If so how this will help meet the Authority's objectives as stated in this RFEI?.*

More than including additional subsystems in the main contracts, the international trends would suggest to limit their scope of work by subsystems.

4. *What is the appropriate contract term for the potential DBFM contract?. Will extending or reducing the contract term allow for more appropriate sharing of risk with the private sector?. If the Respondent recommend a different delivery model, what would be the appropriate term for that/those contract(s)?.*

Considering DBFM format, the contract term would be linked to the amortization of the specific asset included in it. In this sense, if the procurement structure would be defined by the different main subsystems, the contract term could vary between 25 and 50 years. For an aggregate DBFM contract an analysis would be necessary to be carried out to balance the amortization period of the different assets.

The risk sharing with the private sector would be well balanced considering the criterion of the main asset amortization.

5. *What is the appropriate contract size for this type of contract?. What are the advantages and disadvantages of procuring a contract of this size and magnitude?. Do you think that both project scopes should be combined into a single DBFM contract?.*

As it has been mentioned, there is a limited experience of PPP contracts in the High Speed Railways field. Up to now there is no precedent for contracts of such a big size range. According to this, there isn't an easy way to define the most appropriate size for the contract and a more detailed analysis would be conducted.

The advantages for these aggregated contracts would be around the fact that all the integration and interface management of the system are carried inside a single entity. But some disadvantages are coming from the same side as far as these entities, these consortia, by nature are usually extremely heterogeneous. This high level of heterogeneity could introduce serious dysfunctions that turn inefficient the apparent efficiency derived of a single entity.

The procurement process itself for this large contracts could have a negative impact also in the implementation schedule. Preparing the documents for the tender, providing time enough to set the consortia, the time necessary for getting ready the proposals (technically complex, big size, some extent of risk, financing, ...) and a period for negotiations would mean a delay for the overall schedule very difficult to handle.

The combination of both segments into a single DBFM contract could multiply the disadvantages associated

It has to be taken also into account that entities of these size and magnitude sometimes are difficult to coordinate.

6. *Does the scope of work for each project expand or limit the teaming capabilities?. Does it increase or reduce competition?.*

Generally speaking, the teaming capabilities are based on the interest for the project. In this particular case, a long segment of a high speed line, the team will include a large number of companies due to the number of different technical subsystems (civil works, track, electrification, signaling, ...) and the big size of the sections. Not only the consortia will need a large group of companies but with very different profiles in terms of specialty and size. This important level of heterogeneity could create some uncertainties about the internal management with potential impacts on the overall efficiency of the process.

Even in an international procurement context, the number of potential consortia could be small due to the large number of companies involved in each one. This fact could seriously limit the competition.

7. *Given the delivery approach and available funding sources, do you foresee any issues with raising the necessary financing to fund the IOS-South project scope?. IOS-North project scope?. Both ?. What are the limiting factors to the amount of financing that could be raised?.*

In principle, it wouldn't be an issue raising the necessary financing to fund the project as far as the main limiting factor for financing is the level of risk. The key factor is the risks share between the owner and the concessionaire: design, construction, commissioning, availability and service quality level, demand, ticket fare, ...

Procurement strategy based on contracts by segments or by components will make the financing easier – shorter time – and cheaper

8. *What changes, if any, would you recommend be made to the existing funding sources?. What impact would these changes have on raising financing?.*

Any change on the funding sources in the direction of increasing the available amount of public funds would make easier the private financing of the project.

As a general rule, it will be always easier and cheaper raising financing for a number of smaller packages than for a big one. Specially as the financers will provide lower amounts for each contract and they'll we dealing with the actual qualified companies without intermediaries.

9. *Given the delivery approach and available funding sources, is an availability payment mechanism appropriate?. Could financing be raised based on future revenue and ridership (i.e., a revenue concession)?. Would a revenue concession delivery strategy better achieve the Authority's objectives?.*

The availability payment mechanism can be considered appropriate for this kind of transportation infrastructure as far as the quality of the system and the accuracy of the maintenance are in hands of the implementing consortium.

Revenue and ridership risk makes sense to be related to the operation concession more than for the fixed installations contract. The ridership is much more directly linked to the purpose and activities of the services operator than to the infrastructure provider.

10. *Based on the Authority's capital, operating and lifecycle costs from its 2014 Business Plan, describe how the preferred delivery model could reduce costs, schedule or both. Please, provide examples, where possible of analogous projects and their cost and/or schedule savings from such delivery models.*

As it has been said, there is an extremely limited experience, if any, of this delivery model for a high speed rail line. So, it's not easy to assess in a first approach if there would be an impact on cost or schedule if applying it.

On the other hand, it could be easy to identify projects in the international field that applying a different delivery model –more close to the contract by subsystem model- shows in some extent lower costs and shorter schedules. This kind of comparisons, anyway are highly constrained by the local market conditions.

11. *How this compare to separately procuring each high-speed rail component (i.e. separate contracts for civil works, rail, systems, power separately)?. Please, discuss design/construction costs, operating/maintenance/lifecycle costs, and schedule implications.*

The independent procurement of the different components or subsystems that integrate the railways system is the most often model applied internationally to the implementation of high speed systems. The main advantage is that the contracts are consistent with the industry organization what makes all the process smoother and more efficient. Moreover, if one of the main goals consists on shortening the schedule, the opportunity of simultaneously contract more than one package is open.

In some European networks, for instance, where this model has been extensively applied good average values in terms of costs and schedule have been achieved.

12. *For each project are there any technical changes to the respective scope of work that would yield costs savings and/or schedule acceleration while still achieving the Authority's objectives?. If so, please describe.*

It isn't clear that technical changes in the scope of works of the large aggregated contracts would introduce relevant costs savings or schedule shortenings.

As it was mentioned above, the alternative model consisting on independent subsystem based DBFM contracts could contribute to reduce costs or accelerate implementation schedule of the project while achieving the Authority objectives.

❖ Analysis of an actual example from the HSR international field

➢ Madrid – Northwest High Speed Line. Olmedo – Zamora – Pedralba Segment. Electrification DBFM Contract

The Spanish high speed rail network, with around 2500km of lines under operation, is among one of three largest ones worldwide in terms of length. This important investment has been mostly funded by public sources. There are a few examples of PPP along thirty years of activity. One of them is the international section Figueras – Perpignan connecting the Spanish and French networks. In the origin of this type of contract – DBFM, including the full set of fixed installations- its international nature was having an important influence. There hasn't been any other contract following this model that involves a number of subsystems.

In the recent times, ADIF –the Spanish public railways infrastructure manager- has started again to consider PPP contracts, including private financing, to keep the intense rythm of construction of the network extension. One of the few contracts with this model was awarded few years ago to a consortium led by Elecnor. A summary of the main features of the contract can be found in the following lines:

- **Procurement process**

  The purpose of the tender was to contract the electrification of one of the sections of the Madrid – Northwest high speed line. The contract not to exceed value was around $400 million. The Request for Proposals was released on May 2011 and this was the start of the procurement process that was consisting in two steps.

  In the first one a number of companies or consortia was prequalified according to their technical skills (70 % score) and financial solvency (30% score). In the second stage three consortia put in their bids.

  In April 2012 the consortium led by Elecnor was awarded the contract.

  The contract was executed in November 2012 and –due to external facts- works started in March 2014. The commissioning of the line was defined in two subsegments.

- **Contract features**

  - Scope of work: design, build, finance and maintain the electrification subsystem of the section Olmedo – Zamora – Pedralba (195km) of the Madrid - Northwest new high speed line

  - Availability payment criterion

  - Technical features: overhead catenary system, substations, SCADA and ancillary equipment for a 2x25kv voltage with a design speed of 350km/h (around 220mph)

  - Segment length: 195km, including two substations and sixteen autotransformers. (Subsegment 1, Olmedo – Zamora -100km-; Subsegment 2, Zamora – Pedralba -95km-)

  - Relevant dates:

    - 25 years of contract length
    - Subsegment 1 planned commissioning: November 2015
    - Subsegment 2 planned commissioning: December 2016
    - Schedule
      - Design: 6 months
      - Construction: 25 months
      - Testing and commissioning: 5 months
      - Maintenance:25 years

  - Payment structure:

    - Construction stage: 40% of the construction value
    - Deferred (biannual), following an agreed calendar: 60% of the construction value, plus financing costs
    - Availability payment: maintenance works value along 25 years, linked to availability level

- **Current situation**

  - Subsegment 1
    - Construction works have been finished ahead schedule
    - The segment will enter operation within this year
    - Maintenance works will start at the same time as operations
  - Subsegment 2
    - Detailed design has been finished
    - Constructin works are underway according to schedule

Under this PPP model, the Spanish High Speed Rail Infrastructure Manager will continue extending the network with new 200km delivered successfully ahead schedule by the consortium led by Elecnor.

September 2015