

# *Challenges of precast in outstanding projects in Mexico*



*Gabriel Santana E.*  
**MEXICO**



**ANIPPAC**

*bibm*  
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# *Growing industry with more than 20 active partners*





# Active participation from supplying partners





## ***Growing Industry***

***Annual Sales: almost 1,000 million Euros***





# *Growing Industry*

*Annual Production: 1'100,000 m<sup>3</sup>*







# *Growing Industry*

*Annual Construction of 6 million square meters*





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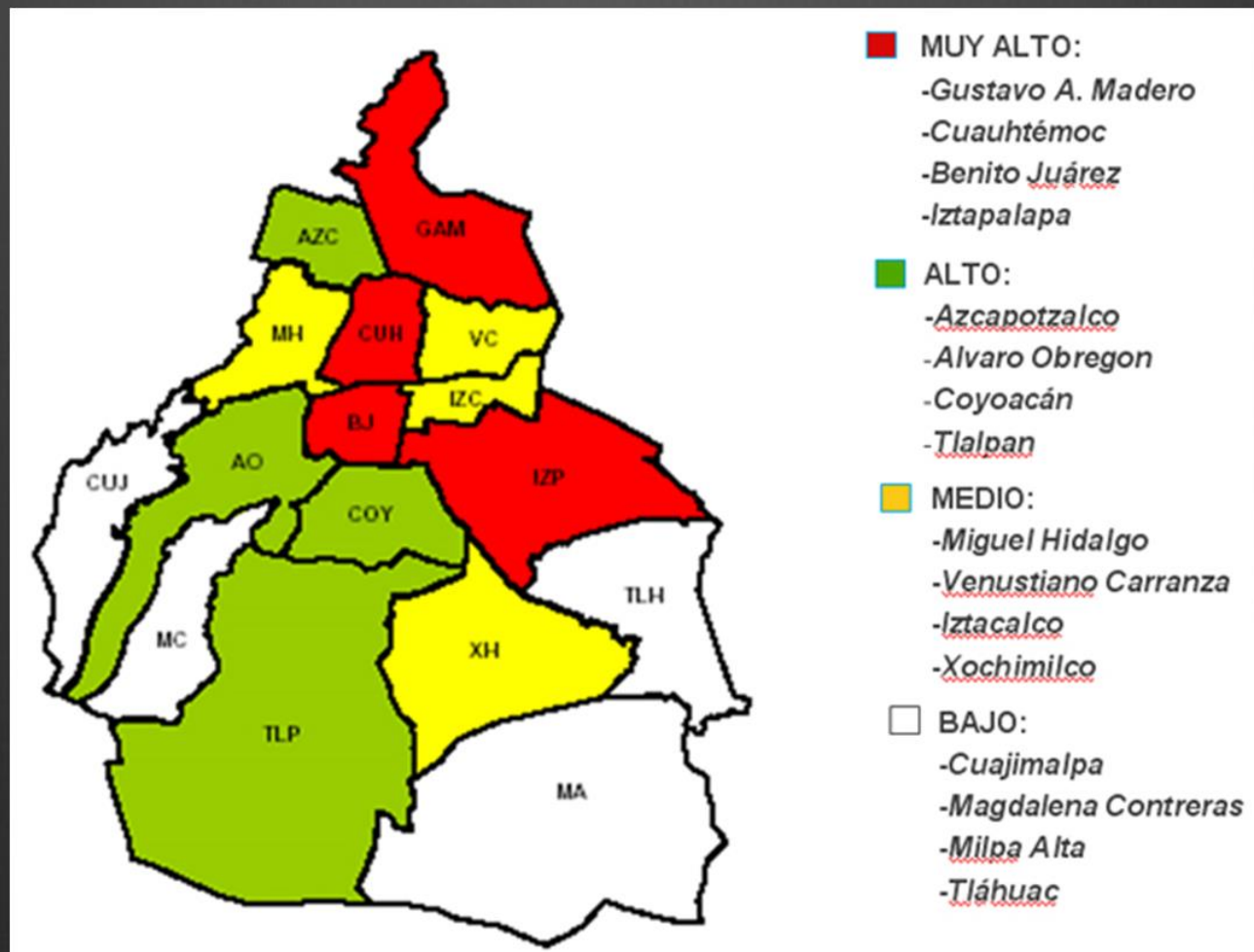
🎬 *CONCLUSIONS*

# CHALLENGES TO OVERCOME IN MEXICO

## *Seismic Code throughout the territory*



## Mainly in Mexico City





## *Densely populated cities*





## *Aggressive terrain*



## *Cheap workmanship*



Fuente: US Bureau of Labor Statistics, 2013.

## Crude steel producing country (13th place in the world)

Crude steel production (million tonnes):

Rank ↕	Country/Region ↕	2007 ↕	2008 ↕	2009 ↕	2010 ↕	2011 ↕
—	World	1,351.3	1326.5	1,219.7	1,413.6	1,490.1
1	 People's Republic of China	494.9	500.3	573.6	626.7	683.3
2	 Japan	120.2	118.7	87.5	109.6	107.6
3	 United States	98.1	91.4	58.2	80.6	86.2
4	 India	53.5	57.8	62.8	68.3	72.2
5	 Russia	72.4	68.5	60.0	66.9	68.7
6	 South Korea	51.5	53.6	48.6	58.5	68.5
7	 Germany	48.6	45.8	32.7	43.8	44.3
8	 Ukraine	42.8	37.3	29.9	33.6	35.3
9	 Brazil	33.8	33.7	26.5	32.8	35.2
10	 Turkey	25.8	26.8	25.3	29.0	34.1
11	 Italy	31.6	30.6	19.7	25.8	28.7
12	 Taiwan	20.9	19.9	15.7	19.6	22.7
13	 Mexico	17.6	17.2	14.2	17.0	18.1
14	 France	19.3	17.9	12.8	15.4	15.8
15	 Spain	19.0	18.6	14.3	16.3	15.6





CHALLENGE	OPPORTUNITY
Seismic code throughout the territory	Worldwide special investigations
Densely populated cities	Reduce the number of precast elements, obtaining more efficient freights
Cheap workmanship	Improve performace and technology
Crude steel producing country	Take advantage on steel's unreachable properties

precast is **DIFFERENT**  
and that makes it **BETTER**



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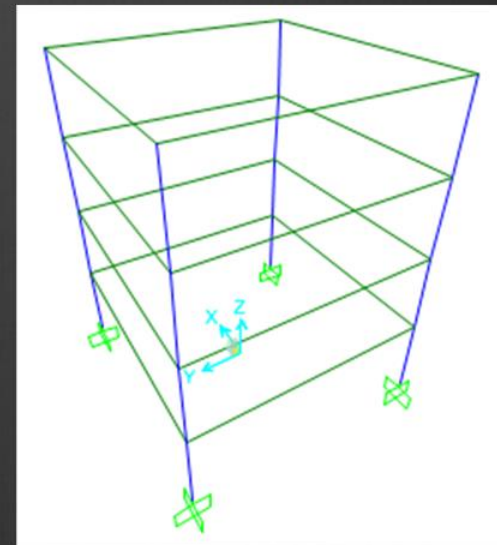
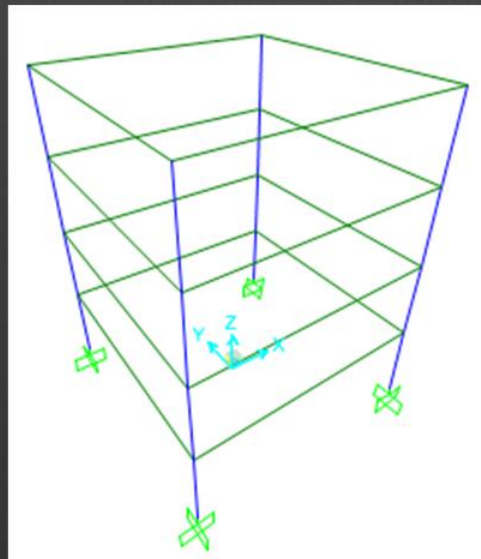
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The construction of a scaled down model was developed to make progress in the research of the column-beam connection using wet cast nodes.

It was tested on a vibratory table under accelerations up to 0.7 g. This is an ongoing investigation with only positive and excellent results.



















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# COMMERCIAL BUILDINGS

# **DESARROLLO COMERCIAL TAMPICO**

























# **Elevated Highways and Outstanding Bridges**































**ITISA**



# Industrial Facilities









# Sports Facilities









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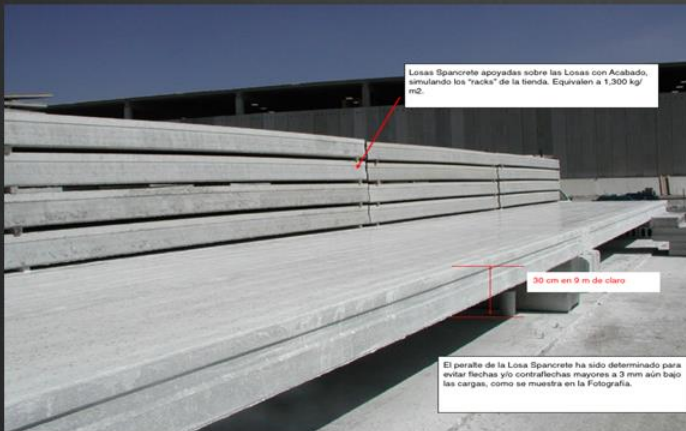
🎬 ***CONCLUSIONS***

- ***Our Industry works differently, thus, we have the convenience to be better than them:***
- Being **safer** than traditional systems (cast in place and metallic)
- Being **the fastest** ones
- Achieving **bigger clear spans**
- Making a difference as an alternative mainly of **High Quality and Development** and NOT because of its low cost



# *Make us different!*

## *Integrate finishing to the structure*







*Make us faster!*  
*Fast forward the programs*



*15 Enero*



*14 Febrero*



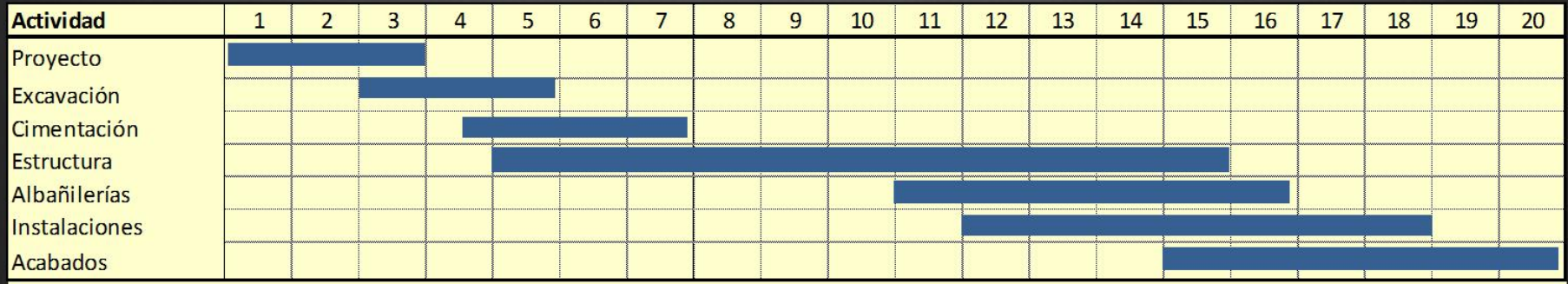
*14 Marzo*



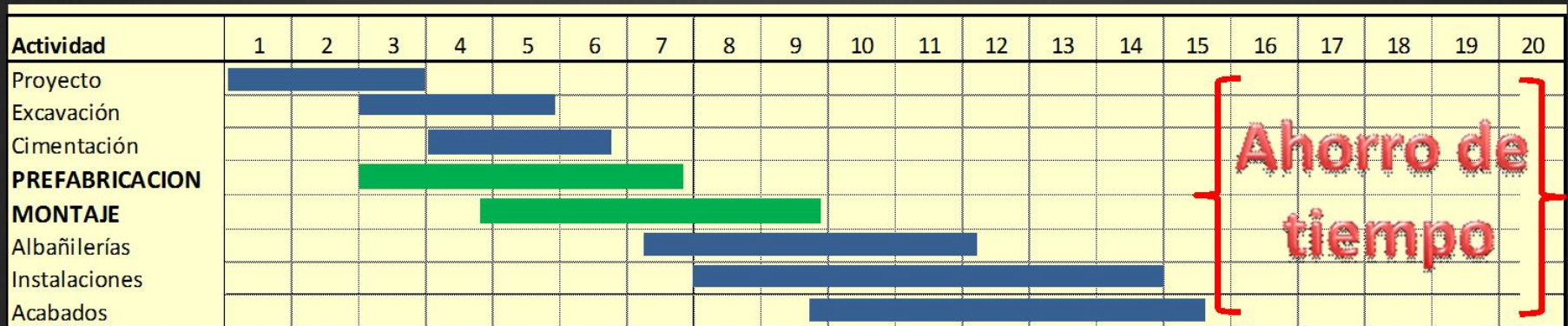
*14 Abril*



## CON SISTEMA TRADICIONAL ...



## CON PREFABRICADOS ...



# *Make us better!*

## *Take the best elements of each system*



*Estructuras Metálicas >> para Volados y pasillos*



*RAMPAS de Autos >> Coladas In-Situ*

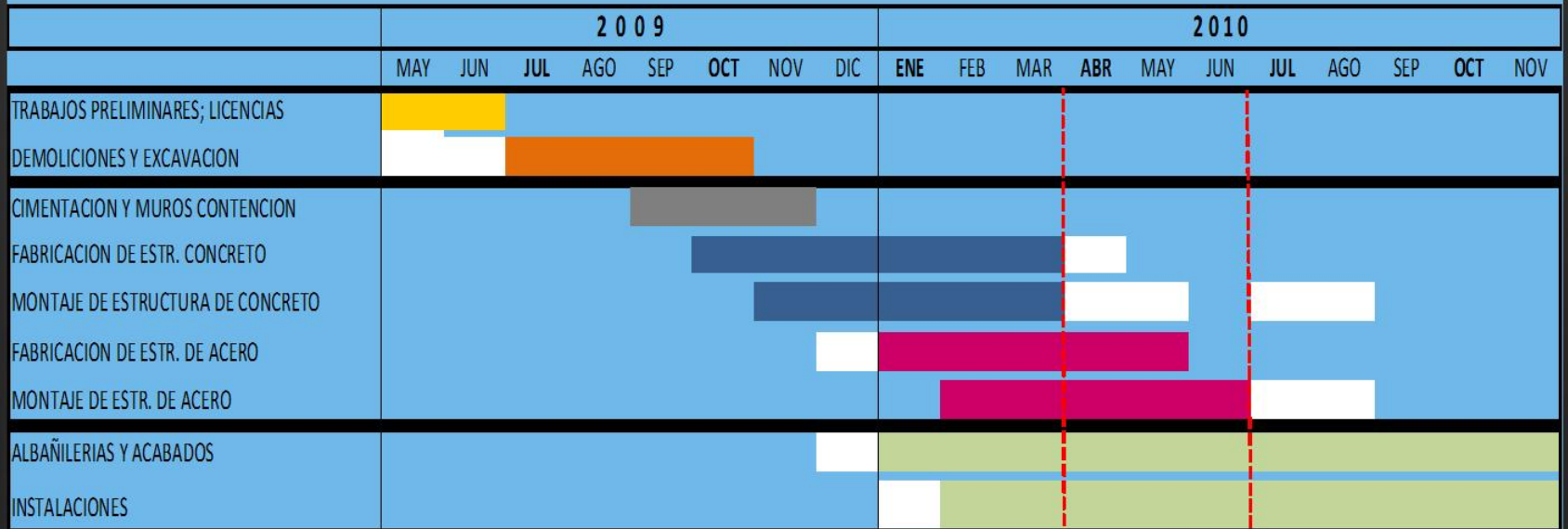


*Grandes cubiertas >> metálicas*

### *COMPARATIVA DE COSTOS POR ZONA*

Zona	Prefabricados	Metálica	In Situ
Tableros Principales	1.00	1.18	1.12
Volados	1.50	1.00	NO
Cubiertas	NO	1.00	NO

## PROGRAMA DE OBRA



Ahorro de tiempo generado  
por la utilización de varios  
sistemas constructivos



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## CONCLUSIONS

- *We are YESTERDAY, TODAY and TOMORROW*
- *Let's work in unison around the World*
- *Let us create alliances with Architects, Developers and Governments*
- *Let us share experiences*
- *Let us not stop the research programs*
- *Let us bet on our program's best system development*

**1<sup>ER</sup>**  
**CONGRESO**  
**IBEROAMERICANO**  
**DE PREFABRICADOS**  
**DE CONCRETO**

**25-28 OCT 2017**

**CONCRETO**

**PRE- INFRAESTRUCTURA  
Y EDIFICACIÓN**

**FABRICADO**

**MOON PALACE CANCÚN**

- **CONFERENCIAS MAGISTRALES**
- **PLÁTICAS TÉCNICAS**
- **PÁNELES DE DISCUSIÓN**

**3<sup>ER</sup>** CONGRESO  
DE SOLUCIONES  
EN CONCRETO  
PARA LA CONSTRUCCIÓN

**50**  
años  
**ANPPAC**  
ANIVERSARIO

**ANDECE**  
ASOCIACIÓN NACIONAL  
DE LA INDUSTRIA DEL  
PREFABRICADO DE HORMIGÓN

**ANIVIP**  
ASOCIACIÓN NACIONAL DE INDUSTRIALES  
DE VIVIENDA PREFABRICADA, S.C.

**ANPPAC**  
ASOCIACIÓN NACIONAL DE PREFABRICADOS DE CONCRETO

**AMIC**

**ATC**

Federación Iberoamericana  
del Hormigón Prefabricado  
**Fihp**

**¡See you there!**

*Because...*

*Who doesn't want to visit Cancun?*



***Thank You!***

[gse@itisa.com.mx](mailto:gse@itisa.com.mx)

[presidencia@anippac.org.mx](mailto:presidencia@anippac.org.mx)