

READY MIXED CONCRETE INDUSTRY IN LATIN AMERICA

J.F. ARCE / M.LASCARRO

Abstract

Latin America has been growing in the past few years. The economic crisis of 2008 didn't hit the region as hard as occurs to Europe and USA, allowing the major part of the countries to still making investments in infrastructure, housing and mining projects. Ready mixed concrete industry has been very active in this period, with a notable growing in Brasil, Colombia and Perú. The expansion of the business has leaded companies to increase the efforts in develop training from the executives to drivers. However, ready mixed concrete consumption per capita still being low against the rest of the world with some exceptions and some problems like the traffic problems in big cities has been getting worst. Industry in Latin America is also very aware of the sustainability initiatives and the need to be updated in this field to attend the society demands on this topic. Here is an overview of the latin American ready mixed concrete industry and their current situation.

Keywords

Ready mixed concrete, latin America, iberoamerican federation, FIHP, training, traffic.

Arce, José

Civil Engineer from the Universidad Católica of University of Guayaquil, with a Masters degree in Construction Management at the University of Illinois Urbana-Champaign. President of the Ready Mixed Concrete Producers Association of Ecuador. General Manager of HOHESA, one of the biggest ready mixed concrete producers of Ecuador. He also serves as a President of Concrete and Prefabricated Buildings, and Director of Cañar Real Estate . Mr Arce serves as a FIHP Chairman of the Board 2011-2013.

Lascarro, Manuel

Industrial Engineering from Pontificia Universidad Javeriana in Bogota (Colombia) and Master in Management and Private Financing of Projects and Concessions from Fundacion Camuñas-Universidad San Pablo CEU in Madrid (Spain), is Director of Industry affairs and Publications of the Colombian Association of Ready Mixed Concrete Producers (ASOCRETO). He is also the Executive Director of the Iberoamerican Federation of Ready Mixed Concrete

1. INTRODUCTION

The ready-mix concrete industry has been growing in recent years in Latin America. The professional development of its staff is reflected in a slight increase in the use of cement penetration into the concrete mix, reduced accidents and increased awareness on sustainability issues.

Although the economic crisis of 2008, impacted the region, it was no comparable to what happened in Europe and North America. In fact, since 2010 the industry began to grow again and industry projections for this and next year are positive.

Some countries like Brasil, Colombia, Perú and México has been showing very positive evolution in his industry numbers.

The development of infrastructure and housing issues has driven of course the use of concrete in the region and continue to be the most important markets for companies.

The advance of industry has been reflected in the FIHP, whose courses for managers, Plan managers and drivers have been very well received. Similarly, the Federation has been able to gather information on the competitiveness of the industry with an Indicator Survey that allows companies to seek improvements to their own development.

2. A GENERAL LOOK INTO THE INDUSTRY

Latin America is a region comprising Mexico, Central America, South America and the Caribbean. 577,000,000 people is living in the area. It is estimated that the concrete production for 2011 was 116,794,560 m³ with an increase of 4.8% compared to 2010.

The per capita of the RMC is 0,198 m³/hab, still low in comparison to other countries. with a minimal of 0,10m³/hab and a maximum of 0,45m³/hab. The use of cement in ready mixed concrete also varies from 4% in Bolivia to 40% in Panamá and 45% in Chile, with a media of 20%.

Latin America and some figures

Country	MÉXICO	ECUADOR	PANAMÁ	URUGUAY	ARGENTINA	PUERTO RICO	GUATEMALA	BRASIL	PORTUGAL	CHILE	Colombia	Perú
Population	112.000.000	14.800.000	3.405.813.00	3.200.000	41.769.726	3.785.000	15.000.000	190.000.000	10.000.000	17.113.000	46.000.000	30.000.000
Estimated production of RMC in 2011	23.000.000	2.300.000	1.550.103.00	390.000	8.500.000	1.337.910	687.450	38.700.000	6.100.000	7.239.860	4.802.000	3.663.080
GDP Growth in 2011	3,90%	6,00%	10,60%	5,70%	8,90%	-3,70%	3,80%	3,00%	-8,00%	6,00%	5,90%	7,80%
Expected GDP Growth in 2012	3,40%	5,00%	6,50%	5,00%	2,50%	-5,80%	3,20%	4,00%	-	5,00%	5,00%	5,5%
Production of RMC 2011/2010	3,0%	14,0%	9,20%	17,00%	6,50%	7,00%	0,00%	7,00%	-16,00%	18,0%	27,0%	9,5%
Expected production of RMC in 2012/2011	3,5%	5,0%	11,0%	12,0%	2,0%	17,3%	5,0%	6,0%	-20,0%	15,0%	10,0%	
Use of cement in Ready Mixed Concrete	20,0%	16,0%	40,0%	25,0%	21,0%	66,0%	9,0%	18,8%	31,5%	45,0%	20,6%	12,0%

2.1 Industry Indicators

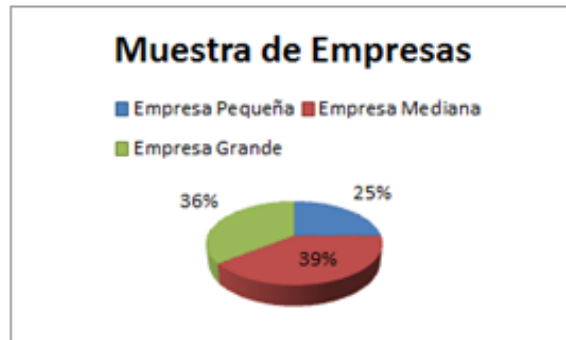
The FIHP annually collects information on indicators of competitiveness while respecting the antitrust laws in different countries. We collect the information to learn more about the state of the industry and facilitate the development of strategies to improve their competitiveness. The latest survey was conducted in May 2012 with data from 2011 and it involved data of 28 plant facilities in the region (7 from small companies, 11 from medium size companies and 10 from big companies). Here some results:

TAMAÑO DE LA EMPRESA

Producción total de la empresa 2011	Tipo de empresa	No. Plantas	%
Producción menor a 100.000	Empresa Pequeña	7	25%
Producción entre 100.001 y 500.000	Empresa Mediana	11	39%
Producción mayor a 500.001	Empresa Grande	10	36%

TOTAL DE PLANTAS PARTICIPANTES 2012: 28

TOTAL DE PLANTAS PARTICIPANTES 2011: 27

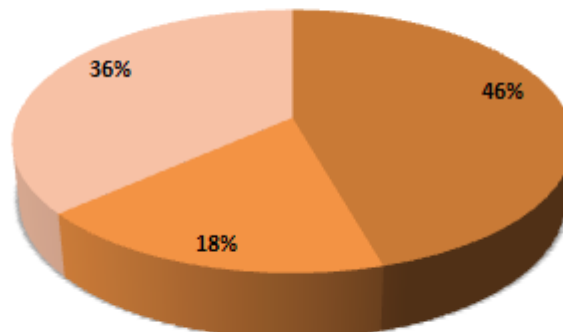


The sample of participants found that 90.8% of the fleet assigned to plants is active today and the fleet is relatively new, being older in the smaller companies, where 46% of the fleet is 10 or more years against the 36% of the average. 92% of the trucks are between 6 to 8 cubic meters of capacity.

Average age of RMC trucks in Latin America

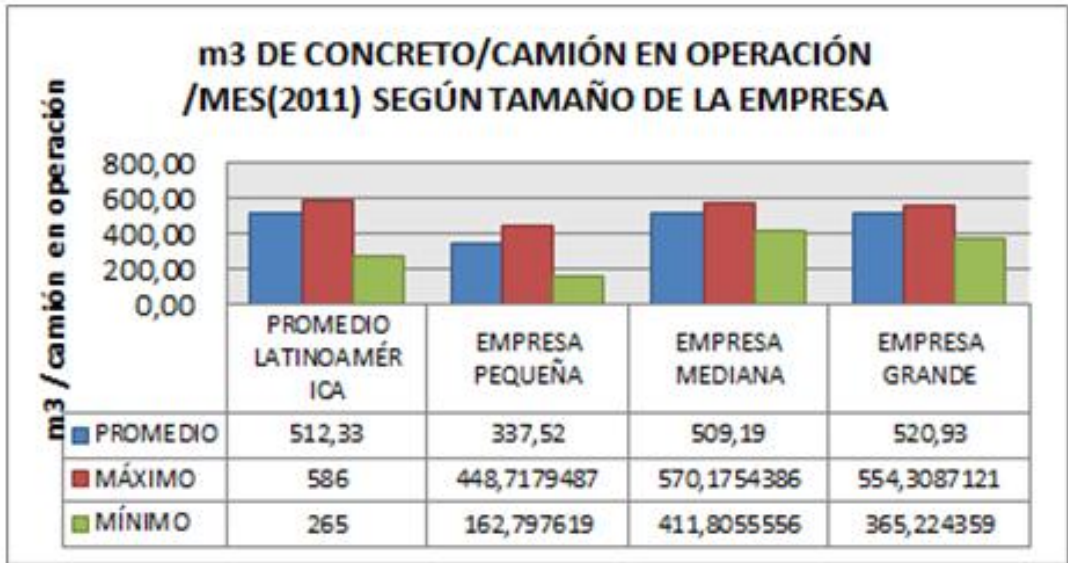
% DISTRIBUCIÓN DE LA EDAD DE LAS FLOTAS

Entre 1 y 5 años Entre 6 y 10 años Mas de 10 años

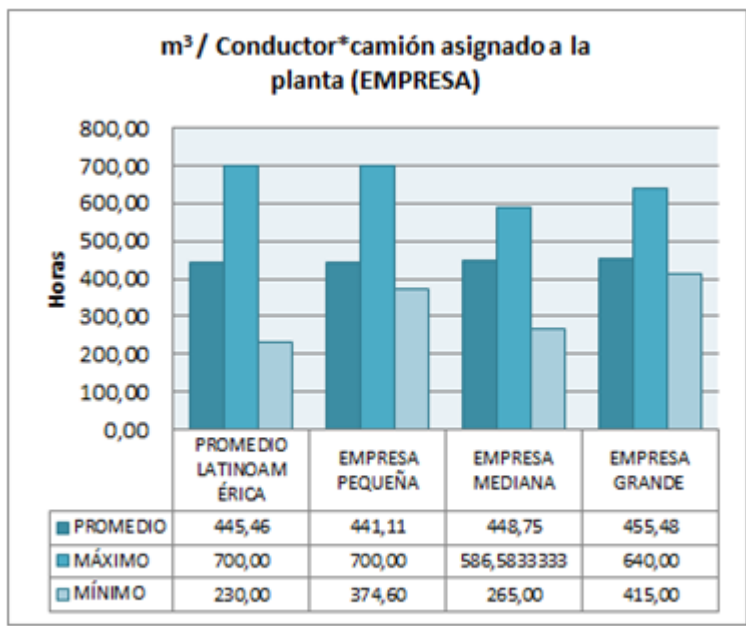


The control of the fleet is one of the main key issues in our industry. The use of GPS technology is growing fast, passing from the 9,3% of the fleet using this kind of control in 2012 to 20,3% in 2012.

About the m3 transported in a month per truck, Latin America average is 512,33 cubic meters per truck per month. Than allow estimations to the fleet in the region of 19,000 trucks. The average load per trip is 6,53 cubic meters with an average of 3,63 trips per day.



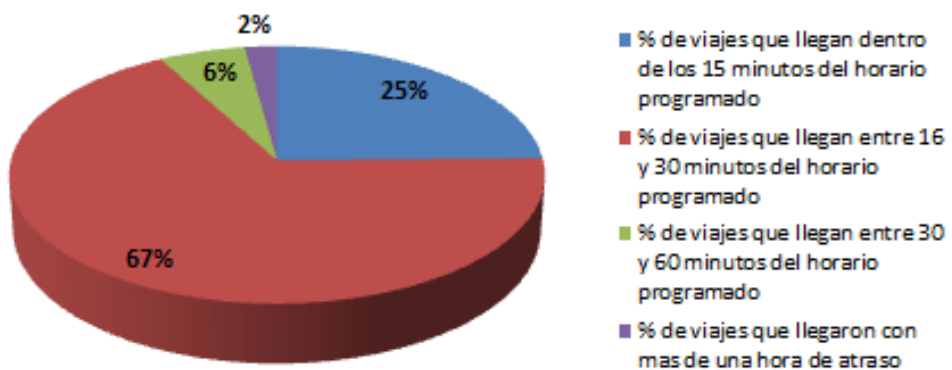
About driver’s average, the information shows that is a slight difference between small and big companies as shown:

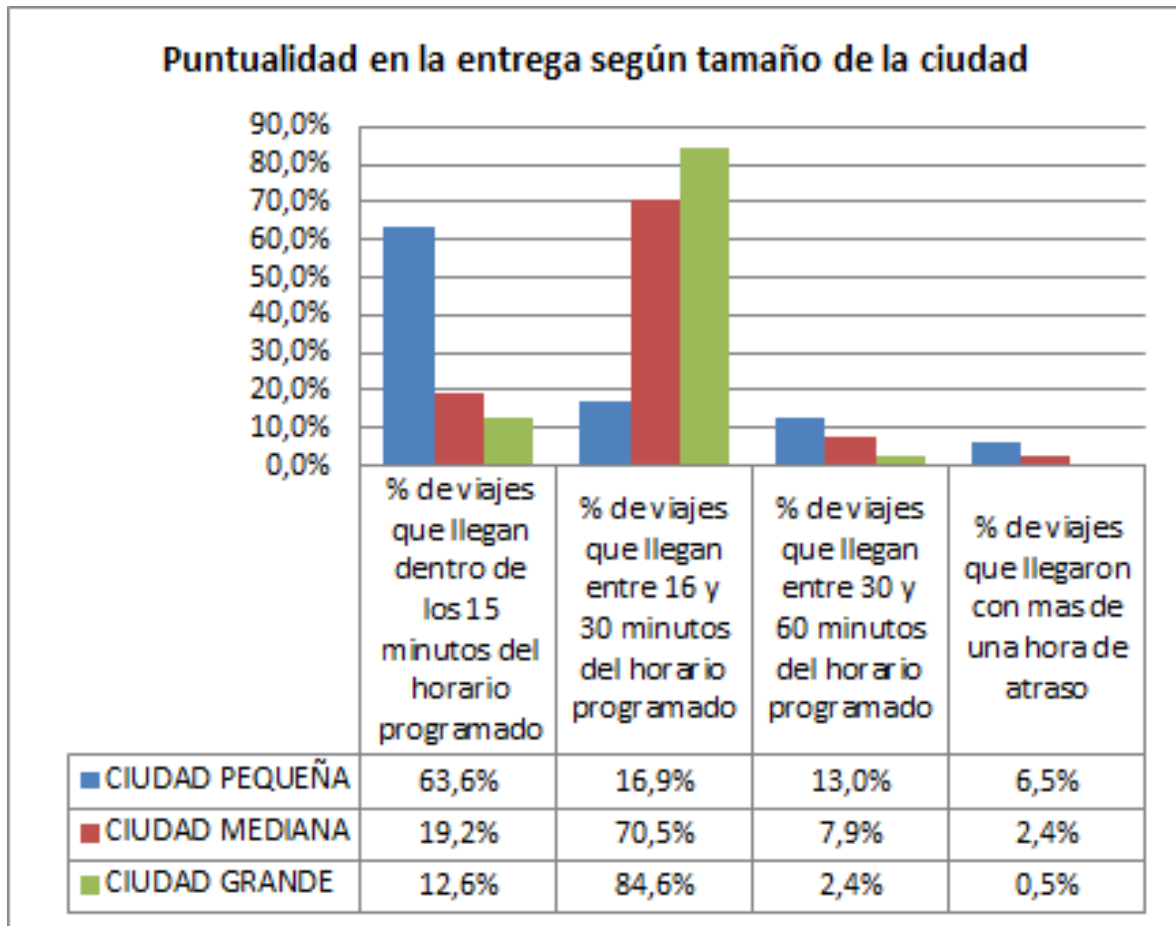


Promedio 2010: 385 m3 +16%

The timely delivery has been affected by traffic in cities. Today only 25% of the trips arrive on schedule (between 15 minutes of the programmed delivery hour). Of course, timely delivery indicator is better in small cities than big cities. 20,3% of the daily trips are cancelled by any reason (overprogramming, weather, etc):

PUNTUALIDAD EN LA ENTREGA 2011





3. Training

The training industry has become increasingly more important. The retention of talent in its management level, responsible for management and professional sales and efficient drivers are a key part in the development of the industry.

3.1 Management Training

Since 2007, FIHP created the program Integral Management of the Ready Mixed Concrete industry, aimed at improving the management skills of our managers. This is a one-week course in which, in addition to receiving an update on operational and technical issues of the business, receive training in legal issues, leadership, management of human talent, financial skills. The program includes visits to other industries for comparison applicable to the sector. To date, 88 executives of 23 companies in 14 countries have taken this course unique in its kind.



Figure 1 A group of Managers during one of the FIHP courses in Panamá. Usually include owners of small companies and General Managers and Directors of medium and multinational companies.

3.2 Plant Managers Trainers

The second level of the industry in which we are starting the training is to plant managers. We have designed a program between 70 and 130 hours (depending on the profile of the head of plant) to be taken in several sessions. In 2011, a first for Cemex program in Colombia and in 2012 are planned at least one course in Mexico more open to plant managers in that country, in addition to specific programs for companies in Colombia and Panama.



Figure 2 The training program includes visits to other business like courier companies (DHL) and food companies (Coca Cola) to learn about logistics.

Programa de Formación integral Jefes de Planta de Concreto

Vicepresidencia de Soluciones para el Constructor



Federación
Iberoamericana
del Hormigón
Premezclado



TECNOLÓGICO
DE MONTERREY.



Asocreto
Asociación Colombiana de Productores de Concreto

Figure 3 The program for Cemex Plant Managers was developed with a partnership between FIHP and Instituto Tecnológico de Monterrey with the support of ASOCRETO.

3.3. Ready Mixed Truck driver training

The mixer truck drivers are the most important person in the industry. They go to the job sites alone and should represent the whole image of the company from the technical standpoint, sustainability, industrial safety and customer service. Therefore, based on NRMCA program, the FIHP has been promoting the training of drivers of the region sharing the same minimum standard but adapting the practices of each company. In the last year, close to 650 drivers in the region has been receiving training with a large media display in some countries, improving the image of the whole industry.



Figure 4 Argos, one of the biggest ready mixed concrete producers in Latin America develop a strategy to publicize internally and externally how they are training their drivers to improve the customer service. Here is a poster with the pictures of different groups of trained drivers that is shown at all the plants.

3.4 Pump Operator Training

As a new product, FIHP developed the concrete pump Operator's Manual to meet specific training needs of industry. The manual contains basic recommendations on product knowledge, sustainability, safety, maintenance and operations and customer service. In Latin America over 97% of concrete pumping services teams are operated by companies producing concrete.

4. Conclusion

The concrete industry still having a promising outlook in the region thanks to the good economic situation in most of the countries. The strong interest in the training topics will help industry development in a sustainable and competitive way. Per capita consumption of concrete and cement usage as percentage of total country consumption will be increased in the following years.