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MAPEI®

TECHNOLOGY YOU CAN BUILD ON™

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MAPEI Group
2014 Numbers
Products

DAM/CA
Organization
2014 Numbers
Customers
Products
People



The **WORLD**
of **MAPEI**

**Additives to improve cost
efficiency of cement
production : Mapei's
Approach**





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2.3 billion Euros total turnover

68 plants worldwide in **5** continents and in **30** different countries

1,400 products

7,500 employees of which **900** in our **18** R&D Centres

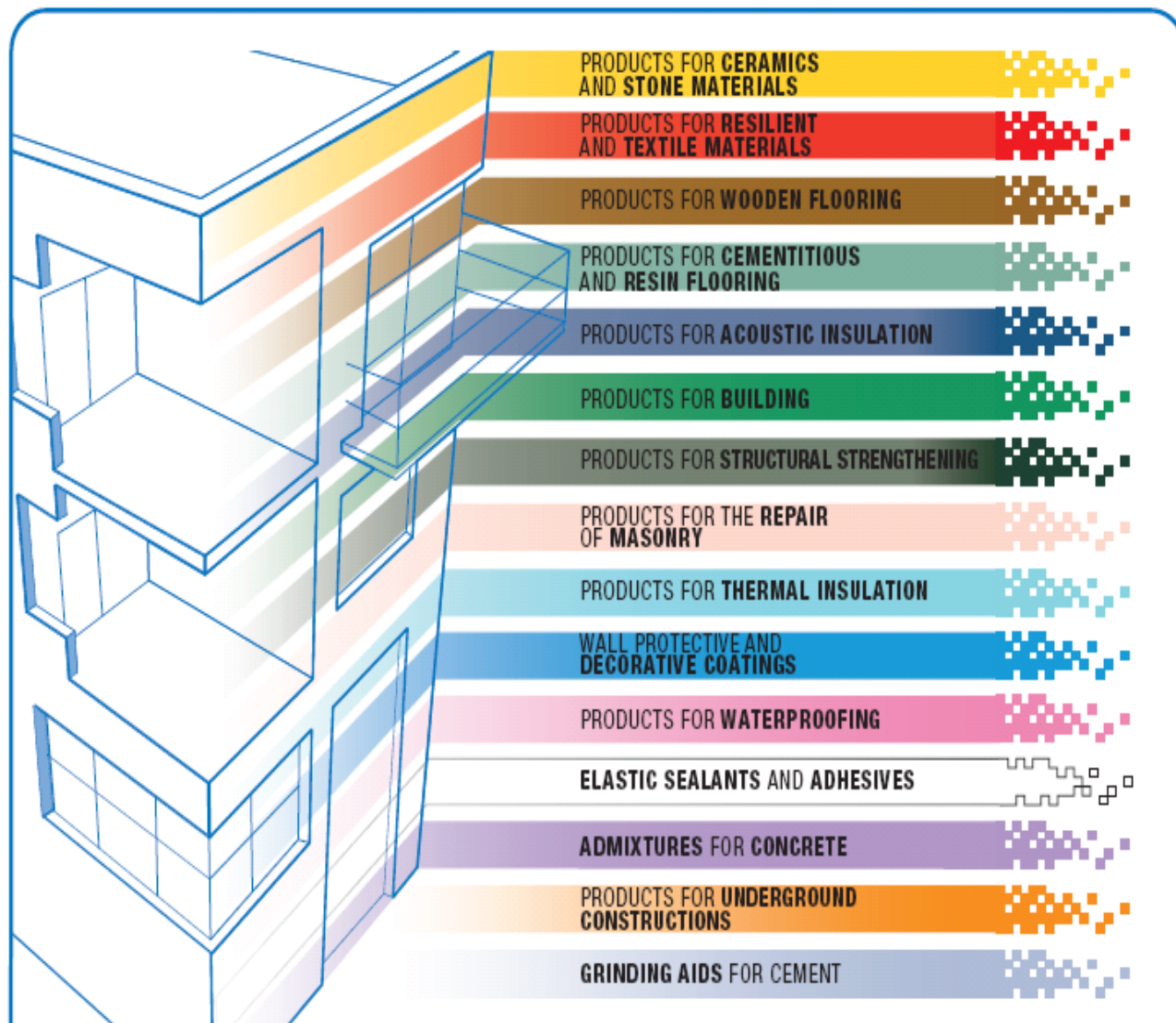
20,000 tons of products shipped every day

55,000 customers worldwide





MAPEI Group



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Mapei India H.O. at Bangalore established in 2011

Factory near Bangalore - 28kms away from city

Second factory coming up in 2015.

Manpower Strength – 70 nos. in 2014

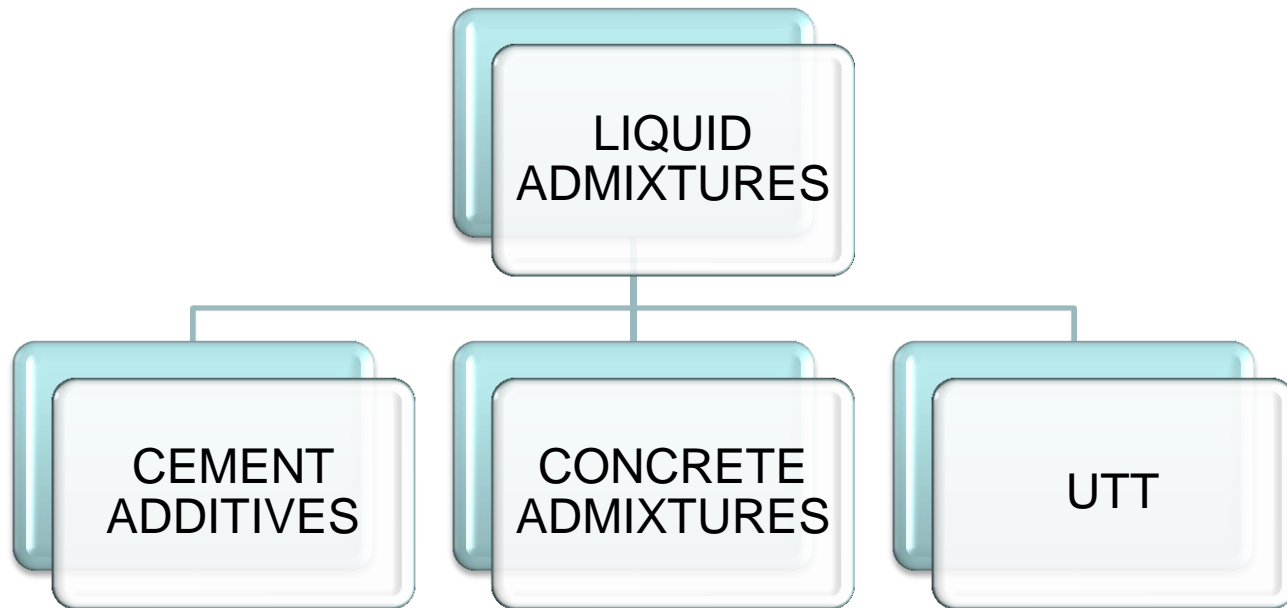
113 nos. in 2015





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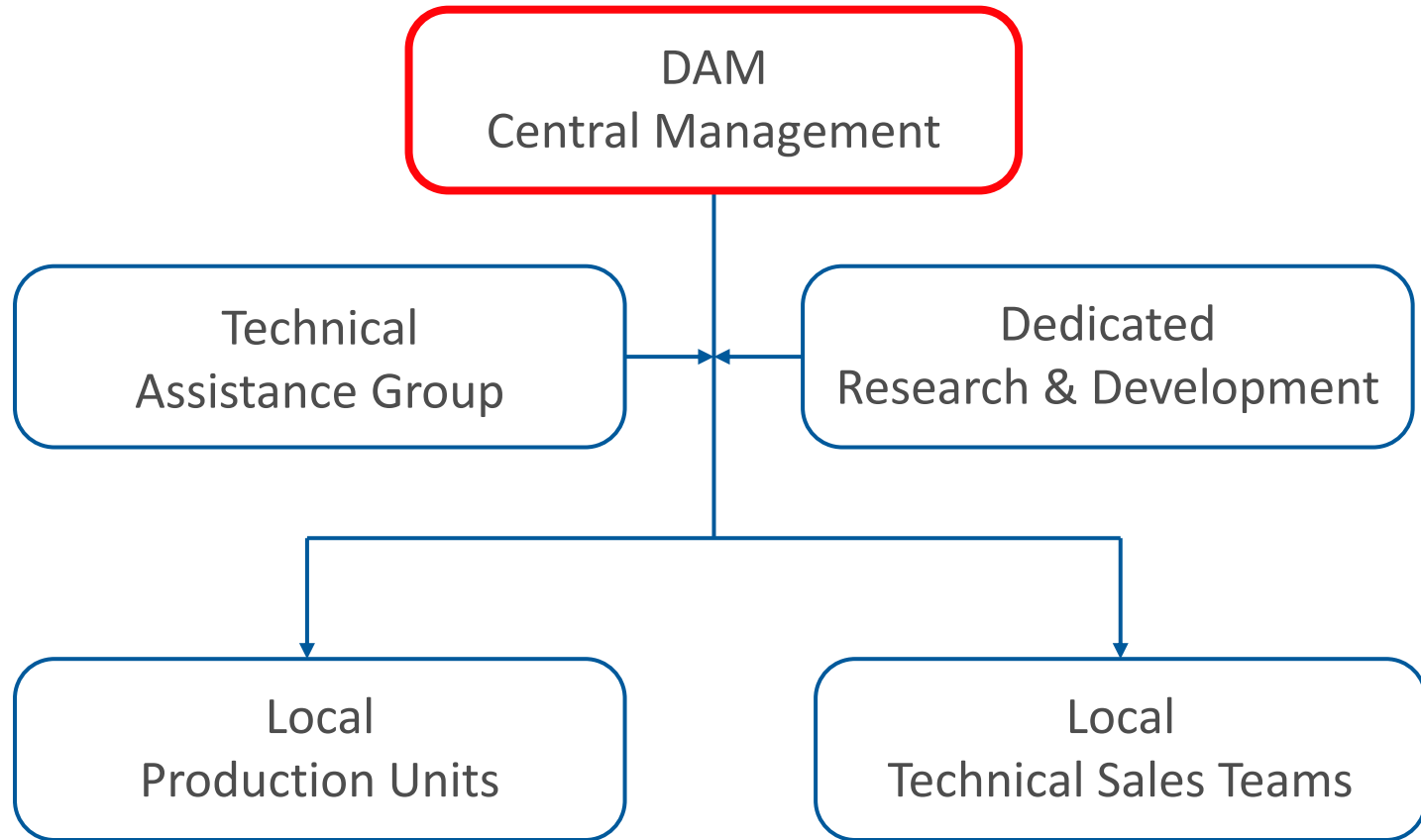




DAM – Cement Additives

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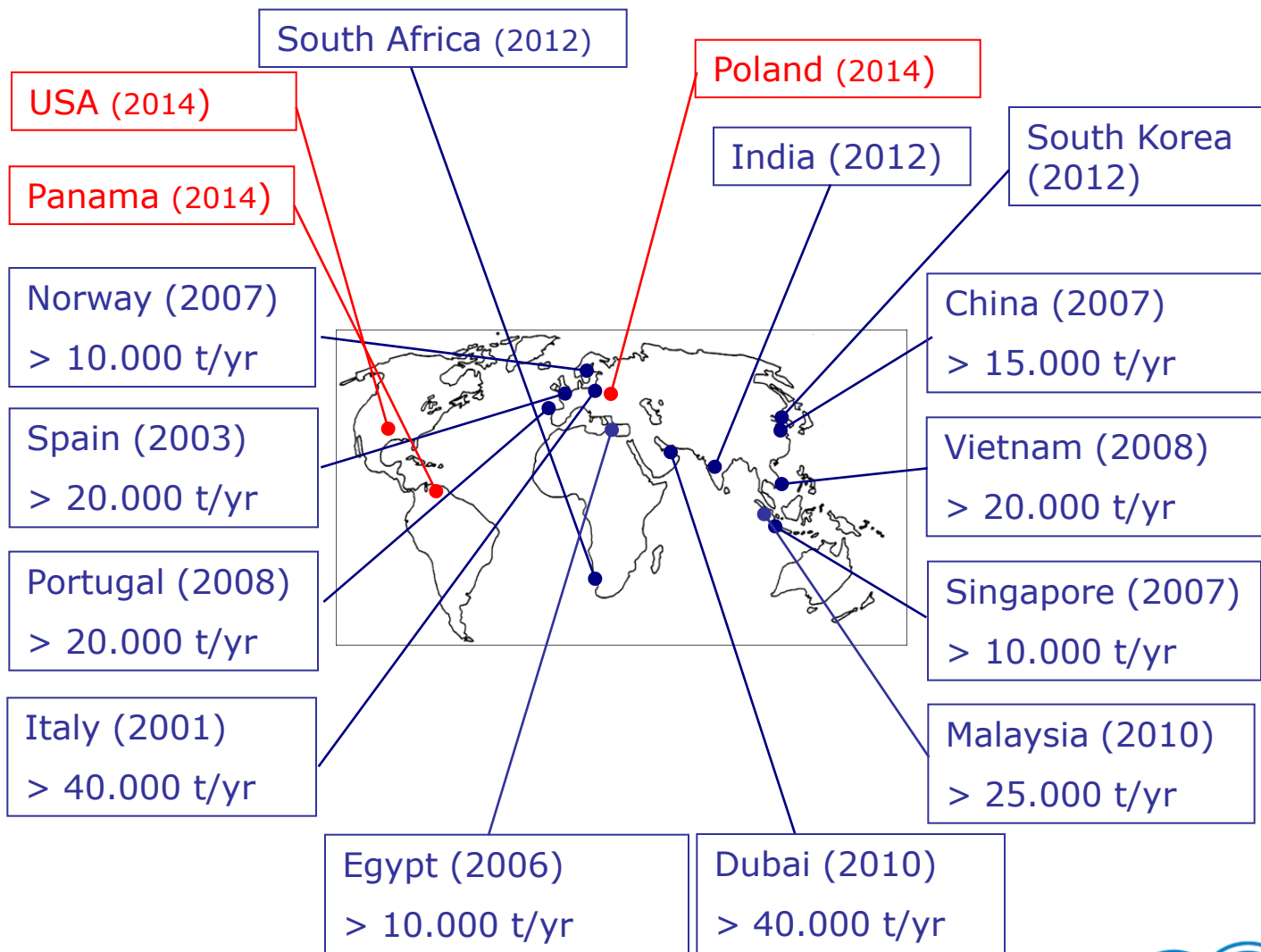


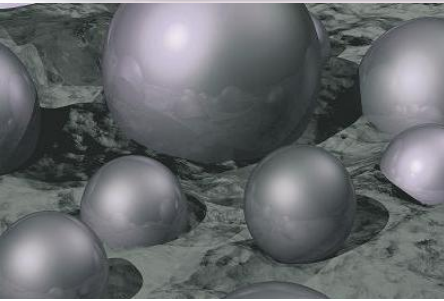
DAM – Cement Additives

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DAM – Cement Additives

16 production units worldwide

Over **100** listed standard products

Over **40** dedicated employees (Management, Sales, TAG, R&D)

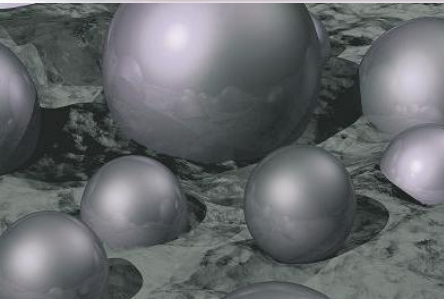
Over **60.000** tons of Cement Additives sold

12% of total efforts dedicated to R&D

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DAM – Cement Additives

- Our customers are all the major international and national Cement Companies
- We are active in more than 50 Countries





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DAM – Cement Additives

- Decrease specific energy consumption
- Increase cement strengths
- Modify setting times (increase/decrease)
- Increase clinker substitution (decrease of specific cement cost)
- Increase cement flowability (decrease packset tendency)





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DAM – Cement Additives

- Grinding Aids
 - MA.G.A./ C (cement)
 - MA.G.A./ M (minerals)
- Performance Enhancers
 - MA.P.E./ S (strengths)
 - MA.P.E./ A (air entrainment)
- Special products
 - Vertical Mill GA & PE (MA.G.A. /VM & MA.P.E. /VM)
 - Workability enhancers (MA.P.E. /W)
 - Liquid Cr(VI) reducers (MA.P.E. /Cr)





DAM – Cement Additives

- Sales: a skilled team of technical people is dedicated to commercial activities
- TAG: Technical Assistance Group is a team of experienced engineers who can support the sales team in delivering the best performance of our products

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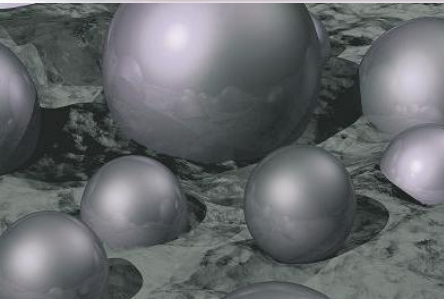
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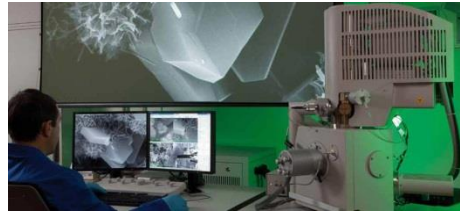
DAM – Cement Additives

- R&D: Mapei Group invests an average of 5% of its turnover and 12% of its Human Resources in R&D. Mapei's central R&D facilities allow to:
 - Perform CA lab evaluations
 - Perform in-deep materials analysis
 - Develop new raw materials and products
 - Publish technical papers and present conference speeches (ZKG, World Cement, ICR, ICC, AUCBM...)
- Technical Assistance Group is not only the connection between Mapei's Cement Additives, but at your disposal for any technical issues.





DAM – Cement Additives



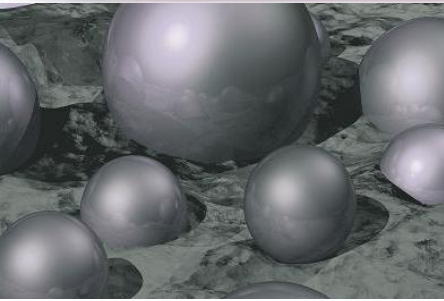
Mapei's central R&D facilities allow a series of in-depth analysis of cement and cement-related materials, e.g.:

- X-Ray fluorescence (XRF)
- X-Ray diffraction analysis, quantitative (XRD-Rietveld)
- Electronic microscopy (ESEM) for hydration analysis
- Petrographic analysis with optical microscope
- Thermo gravimetric analysis (TGA)
- Isothermal and adiabatic calorimetry
- Laser diffraction for particle size analysis

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DAM – Cement Additives

CA laboratory in India can support local market running tests according to IS standards:

- Grinding mill
- Fineness analysis
- Strength determination according to IS (and EN) standard
- Normal consistency and setting time according to IS

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DAM – Cement Additives Case study 1

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Cement Type: PSC			Grinding Aid: MA.G.A. /VM		
S.No	Description		Before use of G.A	After use of GA	Enhancement (%)
1	Production	(TPH)	150	168	12
2	Loading of Slag	(%)	42	42	0
3	Early Strength (Mpa)	1 day	16	16	0,00
		3 days	29	29	0,00
4	Later strength (Mpa)	7 days	41	41	0,00
		28 days	64	64	0,00

Objective : Production Enhancement





DAM – Cement Additives Case study 2

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Cement Type: PPC

Grinding Aid: MA.G.A/C

S.No	Description		Before use of G.A	After use of GA	Enhancement (%)
1	Production	(TPH)	200	224	12
2	Loading of Flyash	(%)	26	28	8
3	Early Strength (Mpa)	1 day	14	14,2	1,43
		3 days	25	25,5	2,00
4	Later strength (Mpa)	7 days	39	40	2,56
		28 days	59	61	3,39

Objective : Production & Fly ash loading





DAM – Cement Additives Case study 3

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Cement Type: OPC

Grinding Aid: MA.P.E/S

S.No	Description		Before use of G.A	After use of GA	Enhancement (%)
1	Production	(TPH)	210	239	14
2	Loading of Flyash	(%)	-	-	-
3	Early Strength (Mpa)	1 day	22	25	13,64
		3 days	39	41	5,13
4	Later strength (Mpa)	7 days	46	47	2,17
		28 days	-	-	-

Cement Type: PPC

Grinding Aid: MA.P.E/S

S.No	Description		Before use of G.A	After use of GA	Enhancement (%)
1	Production	(TPH)	230	271	18
2	Loading of Flyash	(%)	25	28	3
3	Early Strength (Mpa)	1 day	15	16	6,67
		3 days	30	30	0,00
4	Later strength (Mpa)	7 days	-	-	-
		28 days	-	-	-

Objective : Production cost reduction





DAM – Cement Additives Case study 4

Cement Type: PPC

Grinding Aid: MA.P.E/S

S.No	Description		Before use of G.A	After use of GA	Enhancement (%)
1	Production	(TPH)	145	152	5
2	Loading of Flyash	(%)	29	29	-
3	Early Strength (Mpa)	1 day	14,6	18,7	28,08
		3 days	30	33	10,00
4	Later strength (Mpa)	7 days	-	-	-
		28 days	-	-	-

Objective : Clinker Factor Reduction by enhancing FA consumption

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Thank you!

