

Case Study

"Implementation of Smart Metering Technology"

Zhejiang Province, China



华立集团
HOLLEY GROUP

Presented to: OEB

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Presentation Outline

- Introduction to Holley Group, China's largest meter manufacturer
- Overview of China's electricity industry
- Case study of Zhejiang province multi-rate meter project, 2003

HOLLEY GROUP - history

- Producing meters for 34 years
- Largest meter supplier in China – Ranked #1 for 10 consecutive years for production, sales, income, profit, exports and quality
- Low cost supplier, high tech
- Invests heavily in R&D
- Strategic goal - world's leading supplier of meters and related services by 2010



Head Office, Hangzhou

HOLLEY – product line

Complete line of meter products:

- Single phase, 3 phase
- Mechanical meters
- Pay-as-you go
- Multi rate meters (TOU)
- Multifunction meters (“net” meters, remote disconnect, etc.)
- Meter reading systems



I meter (multi-rate, multi-function)

HOLLEY - production facilities

- 10 Manufacturing facilities in China
- R&D labs in China, Israel, Canada
- 2003 production - 15 Million units
- 2005 - "Holley technology zone" opens - largest meter manufacturing facility in the world

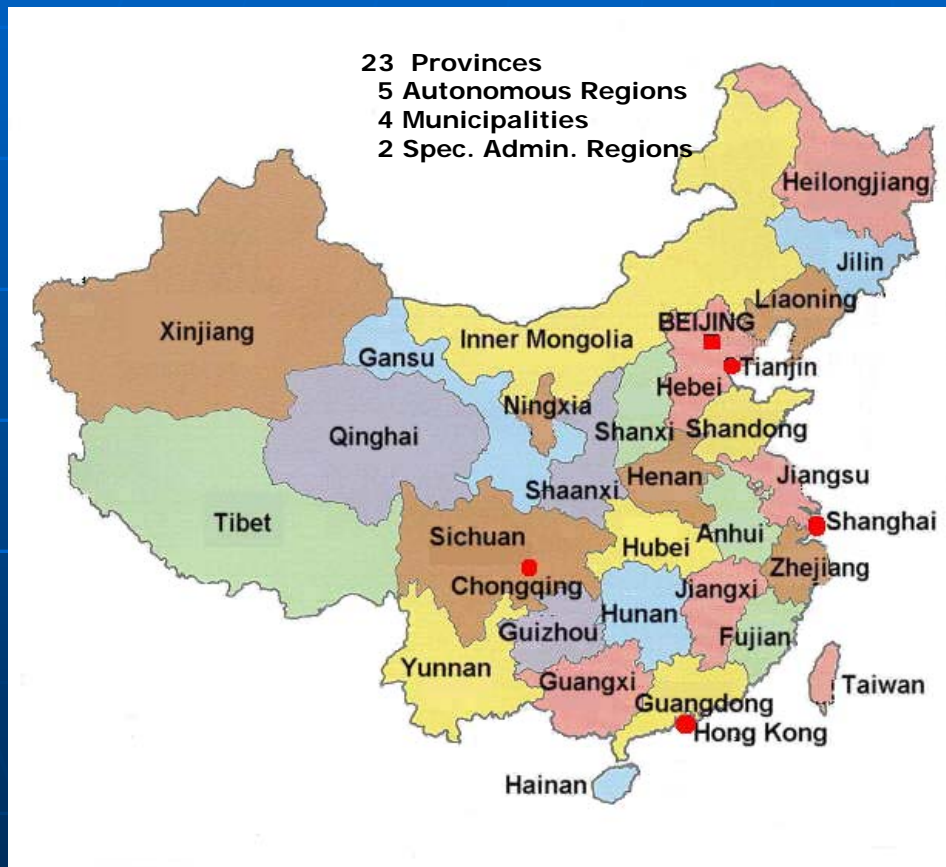


Production line



Workshop

China's Electricity Industry



- China GDP growing at ~ 10%/yr
- Requires ~ 80,000 MW additional 2004 (~17% increase, including 10,000 MW deficit from 2003)
- Huge economic growth in coastal areas, and major shortage of electricity:
 - **Jiangsu*** (pop. = 70 Million)
 - **Shanghai*** (14.7 Million)
 - **Zhejiang*** (43 Million)
 - Guangdong (67 Million)
 - Fujian (32 Million)
 - Shandong (87 Million)

* ~90%+ conversion to digital meters

Zhejiang Province Case Study

	Zhejiang	Ontario
<u>2003</u>		
Population	43 Million	12 Million
GDP	\$150 B	\$500 B
LDCs	88	90
Generating Capacity	32,550 MW	30,500 MW*
Demand	34,550 MW	25,000 MW*
Net	-2,000 MW	5,500 MW*
<u>2004</u>		
Demand	45,950 MW	
pct increase	33%	1.1% - 1.3%*
Added generation	8,900 MW	
Net	-4,500 MW	

* ECSTF report pg. 1

Zhejiang “Smart Meters” Business Case

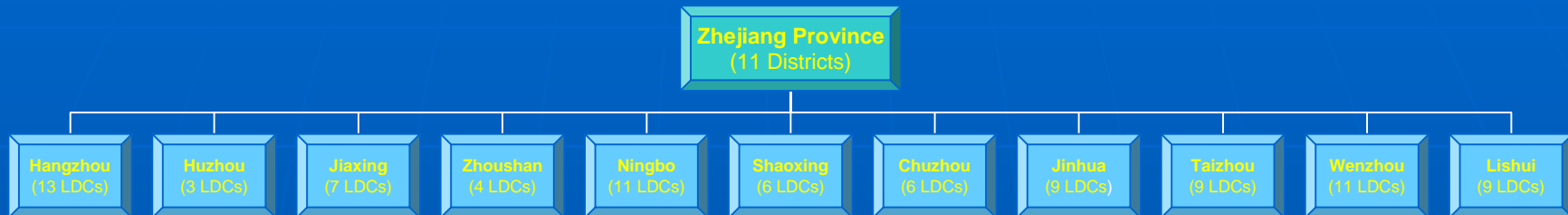
- Existing system of mech./pay-as-you-go (was installed to eliminate bad debt, reduce billing and collecting costs)
- Wholesale conversion to digital TOU meters – better monitoring/control
- Restructure rates - encourage consumers to switch load to non-peak times
- Use knowledge gained in other provinces/cities in China (such as Shanghai) through government, industry, meter suppliers.



Pudong area, Shanghai

Shanghai, pop = 14.7 million, approx. 4 million households. Complete conversion to digital TOU meter starting in 2002. Success in transferring load, reducing peak demand

Zhejiang Project Implementation



- Provincial body establishes standards for all 88 LDCs
 - Technical req'nts and qualified vendors
 - Holley and other suppliers actively worked with Provincial body
- Competitive bidding
 - Digital meters mature industry in China – (common IC, compete less on price, more on hi-tech, high value added) Holley ranked in top of meter companies.
- Close co-operation
 - Holley works with provincial body to receive acceptance of meter design and production Q&A
 - Hands on involvement in production facility



R & D



Testing

Zhejiang Project - Installing meters

- Holley awarded 160,000 out of 500,000 units – limited to three districts – Hangzhou, Huzhou, Jiaxing
- Holley provides technical training to installers and support personnel
- Installation spread over 7 month period – focus on high density areas first, lower demand periods
- Maintained strong support throughout whole process with all players



Hangzhou



Huzhou



Jiaxing

Zhejiang Project - Key Success Factors

- Communication, co-ordination, co-operation
- Standardize – to achieve economies-of-scale and lower costs
- Schedule- allow competitive market
- Continuous improvement

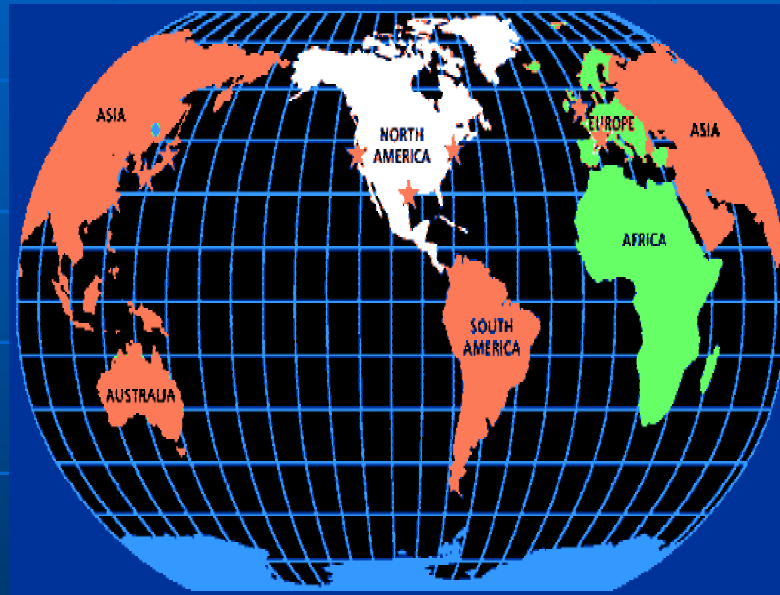
Remember, the Great Wall of China wasn't built in a day !



Holley employees proudly complete an earlier project

Need more information on “smart metering”, business in China?

Contact us:



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