



# Break-bulk cargo ports in mainland China



Dr Yin Ming, Associate Professor of International Shipping Management, Shanghai Maritime University

Break-bulk or general cargoes usually refer to those that can be counted piece by piece. According to the forms of their packing, break-bulk cargoes can be sorted into packed cargoes and unpacked cargoes, the former refer to those which are transported in bags, packages/bales, cases/cartons/crates etc, while the latter refer to those which are transported either unpacked or those that cannot be packed.

With the development of containerised transportation, most traditional break-bulk cargoes nowadays are transported in containers. Consequently, fleets and ports for break-bulk cargoes are undergoing a process of decline all over the world. Mainland China is also witnessing the same change, although the absolute number of its general berths for break-bulk cargoes is still increasing (Table 1). Also in Table 1, we can see that the percentages of general berths for break-bulk cargoes keep decreasing, from 20% (322/1602) of year 2011 to 18.95% (345/1821) of year 2013.

In terms of the China Ports & Harbors Association, which was founded in 1981, among its over ten departments and branches – including those for container cargoes, oil, cruise ships and so on – there is no branch for break-bulk cargoes.

## Developing trends

Before the commencement of containerisation and some other special techniques for cargo transport and handling, break-bulk cargoes played a significant role in the shipping and port market in mainland China. In pace with the booming of container transport, Ro-Ro (roll on/roll off) transport and some other special means of transport, the market share of ports for break-bulk cargoes begins shrinking and fragmenting. Figures 1, 2, and 3 show the throughput percentages (in tons) of different types of cargoes in ports of mainland China in the past three years.

As mentioned above, most traditional break-bulk cargoes are carried in containers at present, as long as they are feasible for containerisation, which can also be proved by the tremendous progress of China's container fleet and terminals in recent decades. Other special cargoes are handled in progressively professional ways, eg more and more vehicles, as commodities, are carried on board mega Ro-Ro vessels and handled at specially-equipped Ro-Ro terminals. Awkward cargoes, sometimes also known as project cargoes, the sizes and/or weights of which take them beyond the capacity of containers, currently still rely

on the traditional way of port handling, with the help of modern, jumbo port machinery.

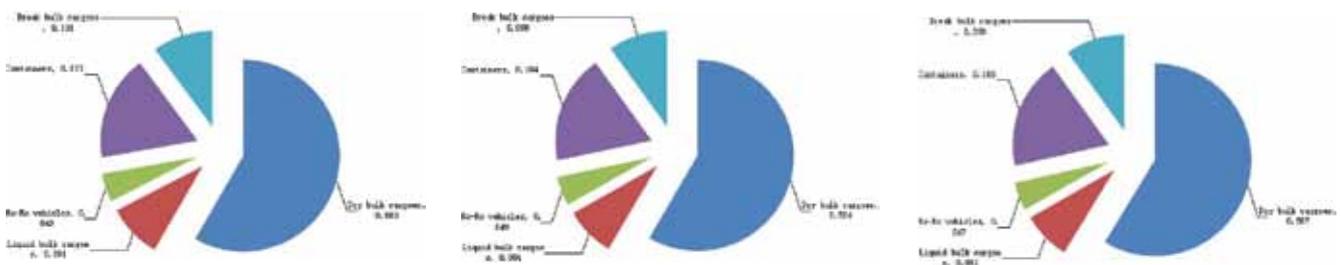
## Major problems and solutions

The emergence of modern logistical techniques has posed big challenges for the development of traditional break-bulk cargo ports. In mainland China, many break-bulk cargo ports are confronted with problems and difficulties, eg outdated operating techniques, huge differences in cargo packing, polarisation of the port's human resources, and low port charges and profit rates. Taking into account such typical problems, pertinent solutions are put forward.

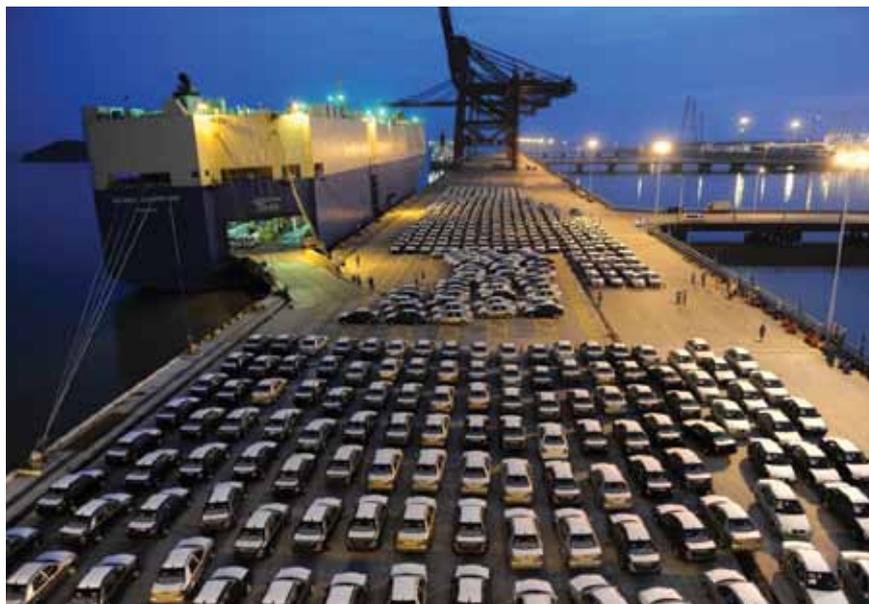
First, advanced semi-automatic or automatic handling techniques should be properly updated, information management systems should be duly developed, and experience from automatic container terminals should, with time, be introduced.

Second, standardisation of packing, groupage and unitisation should be encouraged, which can considerably reduce port labour intensity, make full use of port machinery, increase port operating efficiency, shorten the turnover period of vessels and vehicles, facilitate tally and taking- or handing-over of cargoes

Sources: China Ports Year Book 2011, 2012, and 2013



Figures left to right: Figure 1. Throughput percentages of different types of cargoes in ports of mainland China, 2011; Figure 2. Throughput percentages of different types of cargoes in ports of mainland China, 2012; Figure 3. Throughput percentages of different types of cargoes in ports of mainland China, 2013.



Top left: A container terminal in mainland China; Right: A Ro-Ro terminal in mainland China; Bottom left: Handling project cargo

Sources: China Ports Year Book 2011, 2012, and 2013

Types of berth	Numbers in recent three years		
	2011	2012	2013
Professional berths for specified cargoes (eg. containers, coal, ore, crude oil, liquid chemicals etc)	942	997	1062
General berths for bulk cargoes	338	379	414
General berths for break-bulk cargoes	322	340	345
Total	1602	1716	1821

Table 1 Numbers of different types of berths in mainland China (2011-2013)

in ports and decrease the probability of cargo loss and damage.

Third, more attention should be paid to the training and full utilisation of human resources, and simultaneously, scientific evaluation systems should be established to monitor employees' performance. Personnel mastering the comprehensive theory and practice of port management and logistics should be deemed a port's most valuable property.

And fourth, national reform of port charge mechanisms should be pushed forward to make the pricing of port operations return to the market, and enterprises interior management of port charge should be strengthened to promote standardisation and institutionalisation.

### Summary

With the development of containerisation and specialised transportation, the handling business for traditional break-bulk cargoes has declined in many ports in mainland China since the end of last century. Most

of China's imported and exported break-bulk cargoes are stuffed into containers before they are carried. Awkward cargoes are handled as project cargoes by professional and jumbo port machinery, the function and/or size of which are far beyond traditional port cranes. As a new growth point, Ro-Ro business for the loading and discharging of vehicles as commodities has drawn more and more attention from many port operators in mainland China.

The transformation of traditional ports for general break-bulk cargoes becomes quite critical for their survival. Container terminals, Ro-Ro terminals, and specially-equipped docks for project cargoes are the most popular candidate schemes. For future development, a distinguishing and unique feature is necessary for all ports that want to maintain their break-bulk cargo business.

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### About the author

Dr Yin Ming is associate professor of international shipping management at Shanghai Maritime University. He has published dozens of papers and books relating to the port and shipping industry.

### About the organisation



Shanghai Maritime University (SMU) is a multi-disciplinary university with a special emphasis on shipping, logistics and ocean science. The history of SMU can be traced back to 1909 at the end of the Qing Dynasty and the university has been honored as a "cradle of international shipping specialists". At present the university runs 19 doctoral programmes, 59 master's degree programmes and 45 bachelor's degree programmes. SMU has over 20,000 full-time students, including 17,000 undergraduates and over 3,000 postgraduate students. In the MOE evaluation of undergraduate education in 2004, SMU was awarded an "A" (Excellent). SMU has always attached much importance to exchange and cooperation with overseas institutions, and has established close ties with over 70 overseas universities and academies.

### Enquiries

yinm@shmtu.edu.cn

