



BRODOGRADNJA

SHIPBUILDING

UVOD

Tradicionalno orijentirani na more i pomorstvo, žitelji hrvatske obale Jadrana morali su svladati tehniku gradnje brodova. Višestoljetni kontinuitet te gradnje potvrđuje se visokom kvalitetom i tehničkim rješenjima hrvatskih brodograditelja koji u svjetskim razmjerima imaju značajnu ulogu.

Suvremena hrvatska brodograđevna industrija na svjetskom je tržištu više od pola stoljeća i proizvodi gotovo isključivo za strane brodovlasnike. Orijentacija na proizvodnju po zahtjevima kupca koja svaki brod ili seriju čini unikatnim proizvodom, osigurala je hrvatskim brodogradilištima zavidan ugled među brodovlasnicima te brojna priznanja u svjetskim pomorskim krugovima.

BRODOGRAĐEVNA DJELATNOST

Brodogradnja je industrijska grana koja posluje na globalnom svjetskom tržištu, ima prepoznatljiv i kvalitetan proizvod i gotovo je u cijelosti orijentirana na izvoz.

S aspekta vanjskotrgovinske razmjene i gospodarske strategije Vlade RH, brodogradnja je jedna od važnijih grana

INTRODUCTION

Traditionally oriented toward the sea and the shipping trade, the people of the Croatian Adriatic coast have necessarily had to master the technology of shipbuilding. Centuries of shipbuilding continuity are reflected in the high quality of technical solutions designed by Croatia's shipbuilders, who play an important role also internationally.

The modern Croatian shipbuilding industry has been present on the world market for almost half a century and works almost exclusively for foreign shippers. Customized production methods that make each ship or series unique have secured the Croatian shipbuilding industry an enviable reputation among ship owners as well as numerous awards from nautical circles around the world.

SHIPBUILDING INDUSTRY

Shipbuilding is an industrial branch that operates on the global market, has recognisable and quality products and is entirely oriented towards export.

In terms of foreign trade and the Croatian Government's economic strategy, shipbuilding is one of the most impor-

UKUPNI PRIHOD TVRTKI BRODOGRAĐEVNE DJELATNOSTI TOTAL REVENUE OF SHIPBUILDING COMPANIES

Godina Year	Ukupni prihod (000 kn) Total revenue (in HRK 000)	Broj zaposlenih Number of employees
2000.	5.899.061	13.952
2001.	7.060.176	15.127
2002.	8.451.942	14.753
2003.	6.245.992	15.746
2004.	6.699.988	15.422
2005.	7.547.861	15.848
2006.	8.796.519	16.010

Izvor: FINA, DZS, Obrada: HGK
Source: FINA, CBS, Compiled by: CCE

hrvatske industrije. U robnoj razmjeni s inozemstvom brodograđevna industrija u izvozu sudjeluje oko 12 posto.

Prema službenim podacima, u Hrvatskoj je registrirano 7 velikih, 15 srednjih i 313 malih brodogradilišta koja su u 2006. godini zapošljavala prosječno 16.000 djelatnika i ostvarila ukupni prihod od 8.796.518.637 HRK.

Izvoz brodograđevnih radova (ubraja se u nerobni izvoz) također pridonosi vanjskotrgovinskoj bilanci brodograđevnih djelatnosti.

Modernizacija proizvodnog procesa provodi se u velikim brodogradilištima, što će pridonijeti porastu njihove konkurentske sposobnosti. Traju i pripreme za snažniji prodor na zahtjevno tržište odobalnih objekata te na tržište megajahti.

Iako je dio domaće proizvodnje brodica namijenjen izvozu malen, ohrabruje činjenica da je u porastu te da, osim susjednih Slovenije i Italije, obuhvaća i Skandinaviju, a uskoro se očekuju hrvatske brodice i na tržištima Nizozemske i Velike Britanije.

Ukupna vrijednost uvezenih brodica doseže 85,5 milijuna USD, a većina tih plovila (80% motornih jahti i 85% jedrilica) koristi se u charteru, što znači da ima značajnog prostora za proizvodnju i plasman brodica iz domaćih pogona.

PROIZVODNI PROGRAM

S obzirom na opseg poslovanja, kapacitete i veličinu plovila koja grade, brodogradilišta se mogu podijeliti u tri skupine:

- velika brodogradilišta
- srednja brodogradilišta
- mala brodogradilišta

VELIKA BRODOGRADNJA

U proizvodnji velikih preokooceanskih novogradnji zastupljeni su brodovi svih vrsta i namjena nosivosti do 170.000 tdw.

- Brodovi za prijevoz tekućih i rasutih tereta:
 - tankeri za sirovu naftu, tankeri za naftne derivate, tankeri za kemikalije
 - ore carriers, bulk-carriers, OBO-carriers.
- Brodovi za prijevoz suhih tereta:
 - kontejnerski i višenamjenski brodovi, brodovi hladnjače
 - brodovi za prijevoz automobila i kamiona te željezničkih vagona, RO-RO brodovi.
- Putnički brodovi, brodovi za prijevoz automobila i putnika

tant sectors of Croatian industry. In overall foreign trade, the shipbuilding industry approximately has a 12% share in total export.

The export of shipbuilding services (classified as non-commodity export) also contributes to the foreign trade balance of the shipbuilding industry.

Large shipyards are undergoing a modernisation of the production process, which will contribute to their increased competitiveness. Preparations for a stronger penetration of demanding markets for offshore structures and mega-yachts are also under way. Even though domestic boat production for export is relatively insignificant, the fact that it is in constant growth and includes neighbouring Slovenia and Italy as well as Scandinavia, and Croatian boats are expected on the markets of the Netherlands and Great Britain quite soon.

The total value of imported boats reaches almost 85.5 millions USD, while the size of these vessels (80% motor yachts and 85% sailing boats) are used for charter, which means there is significant space left for production and marketing of boats from domestic production plants.

PRODUCTION PROGRAM

In terms of the scope of business, capacity and size of craft they build, Croatian shipyards can be classified in the following three groups:

- Large shipyards
- Middle-sized shipyards
- Small shipyards

LARGE SHIPBUILDING

The production of large new ocean-going ships includes ships of all types and purposes, with deadweight up to 170,000 dwt:

- Transport ships for liquid and bulk cargo:
 - tankers for crude oil, petroleum products, chemicals
 - ore-carriers, bulk-carriers, OBO-carriers
- Transport ships for dry cargo:
 - container and multi-purpose ships, refrigerator ships
 - car and train transport ships, RO-RO ships
- Passenger ships, ships for car and passenger transport
- Special-purpose ships
- Floating docks
- Off-shore structures:

ISPORUČENI BRODOVI 1996. – 2006. SHIPS DELIVERED 1996 – 2006

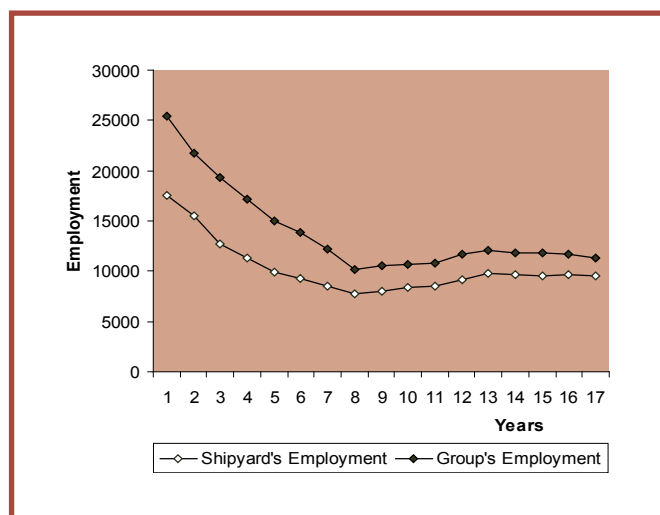
Brodogradilište Shipyard	Broj brodova No. of ships	dwt	gt	cgt	U USD In USD
3.MAJ	34	1.472.679	898.140	669.408	1.002.766.682
BRODOSPLIT	47	2.744.135	1.597.591	1.041.616	1.446.524.975
BRODOSPLIT BSO	22	2.425	5.274	14.280	53.970.146
KRALJEVICA	15	24.578	23.318	48.368	86.427.724
BRODOTROGIR	22	781.714	467.180	389.292	541.556.897
ULJANIK	53	1.457.855	1.582.710	1.141.075	1.704.528.817
VIKTOR LENAC	6	3.005	5.087	12.240	36.531.878
UKUPNO	199	6.426.391	4.579.300	3.316.279	4.872.307.119

Izvor: Hrvatska brodogradnja-Jadranbrod d.d.
Obrada: HGK

Source: Croatian Shipbuilding Corporation
Compiled by: Croatian Chamber of Economy

BROJ ZAPOSLENIH U VELIKIM BRODOGRADILIŠTIMA NUMBER OF EMPLOYEES IN LARGE SHIPYARDS 3. MAJ, BRODOSPLIT, KRALJEVICA, ULJANIK, VIKTOR LENAC

Godina / Year	
2000.	8.464
2001.	9.208
2002.	9.807
2003.	9.702
2004.	9.529
2005.	9.647
2006.	9.503



IZVADAK IZ SVJETSKJE KNJIGE NARUĐŽBI (30. 6. 2007.) NEW BUILDINGS WORLD ORDER BOOK (June 30, 2007)

	ZEMLJA COUNTRY	BROJ BRODOVA NUMBER	NOSIVOST (u tdw) DEADWEIGHT(in tdw)
1.	Južna Koreja Korea (South)	1618	123.065.505,00
2.	Kina China	2001	105.417.865,00
3.	Japan Japan	1323	95.478.775,00
4.	Filipini Philippines	85	5.353.828,00
5.	Njemačka Germany	172	3.695.897,00
6.	Rumunjska Romania	68	3.265.387,00
7.	Vijetnam Vietnam	140	3.113.546,00
8.	Turska Turkey	218	2.456.119,00
9.	Tajvan Taiwan	49	2.443.070,00
10.	Hrvatska Croatia	50	2.258.229,00

Izvor: Fairplay newbuildings, ožujak 2007.

Source: Fairplay newbuildings, March 2007

- Brodovi posebne namjene
- Plutajući dokovi
- Odobalni (off-shore) objekti:
 - platforme za istraživanje i eksploataciju naftnih i plinskih nalazišta u podmorju
 - brodovi dizalice za opsluživanje platformi
 - brodovi za polaganje cjevovoda i kabela
 - brodovi za opskrbu
 - lučki i oceanski tegljači i dr.
- platforms for the research and exploitation of underwater oil and gas fields
- auxiliary crane ships for platforms
- cable- and pipe-laying ships
- supply ships
- harbour- and ocean towboats etc.

Today, many shippers are interested in ship reconstruction and remodelling. The Croatian shipbuilding industry has earned high references also in this field, and it is therefore

Mnogim su brodarima danas zanimljivije rekonstrukcije i preinake brodova. Na tom području je hrvatska brodograđevna industrija stekla visoke reference i često je odredište svjetskih brodarar.

Velika brodogradilišta (brodograđevne grupe) ukupno zapošljavaju 11.370 djelatnika. Još otprilike 1.500 tvrtki (kooperanata, proizvođača brodske opreme, davatelja usluga i trgovaca) izravno je vezano za brodogradnju; oni su u 2006. godini ostvarili promet od približno 2.100 milijuna kn. Prema svjetskoj knjizi narudžbi od 30. ožujka 2007. (prema kriteriju nosivosti ugovorenih brodova), hrvatska brodogradnja je na 10. mjestu s 50 ugovorenih brodova nosivosti 2.258.229 tdw i kapacitetima popunjenim gotovo do kraja 2010. godine.

GRADNJA I POPRAK BRODOVA OBALNE PLOVIDBE

Život na otocima bi bio nezamisliv bez brodova, jedine komunikacije s kopnom. Zbog toga je gradnja brodova tradicionalno razvijena djelatnost. Smješteno na otocima i u priobalju, gradnjom, održavanjem i popravcima brodova i brodica male obalne plovidbe: trajektima, brodovima za turistička i kružna putovanja, ribarskim brodovima i brodovima za javne potrebe – policije, carine, lučke kapetanije, protupožarne zaštite, zaštite okoliša bavi se petnaestak srednjih brodogradilišta s 1.584 zaposlenih: Tehnomont – Pula, Heli – Pula, Lošinjska plovidba Brodogradilište – Mali Lošinj, Brodogradilište CRES, Brodogradilište KRK, Brodogradilište PUNAT – Punat, otok Krk, Nauta Lamjana – Kali, Brodogradilište i marina BETINA – Murter, Nautički centar PRGIN – Remontno brodogradilište ŠIBENIK – Šibenik, Montmontaža-Greben - Vela Luka, Nautički centar MOKOŠICA – Mokošica itd. Ukupni prihod te grupe brodogradilišta u 2006. godini iznosio je 514,2 milijuna kn. U budućnosti, ta brodogradilišta mogu računati na kontinuiranu zaposlenost kapaciteta na modernizaciji i obnovi turističke i ribarske flote kao i na narudžbe za gradnju brodova obalne straže.

GRADNJA I POPRAK BRODICA I BRODOVA ZA SPORT I RAZONODU

Osim brodogradilišta srednje veličine, tradicija hrvatske brodogradnje vezana je za proizvodnju brodica za privredne svrhe (ribarstvo, prijevoz putnika) ili za obiteljske izlete i/ili krstarenja. Nagli razvoj nautičkog turizma i pojava novih materijala utjecali su na pravce razvoja te djelatnosti prema gradnji, popravcima i održavanju brodica za sport i rasonodu. Interes za tu djelatnost raste i danas, ne samo

a frequent provider of such services for shippers around the world.

Large shipyards (shipyard groups) employ 11,370 employees in total. Another 1,500 companies (sub-contractors, ship equipment producers, service providers and salesmen) are directly involved in shipbuilding and they achieved revenue of 2,100,000.00 HRK in 2006.

According to world order book from the 30th March 2007 (in accordance with the deadweight criteria of the contracted ships) the Croatian shipbuilding ranks tenth with 50 contracted ships of 2,258,229 dwt and all sold capacities almost until the end of 2010.

BUILDING AND REPAIR OF COASTING VESSELS

Life on the islands would be unthinkable without ships, the only communication with the mainland. The shipbuilding is, therefore, one of the traditional commercial activities of Croatian islands. Situated along the coast and on the islands, they build and repair ships and boats for coastal navigation. These include ferries that connect the islands and the coast, cruise ships, fishing ships, ships for public services (police, customs, fire protection, environmental protection etc.). About 15 middle-sized shipyards employ around 1,584 employees: Tehnomont – Pula, Heli – Pula, Lošinjska plovidba Shipyard - Mali Lošinj, Shipyard CRES, Shipyard KRK - Krk and Shipyard PUNAT – Punat, Nauta Lamjana – Kali, Shipyard and Marina BETINA – Murter, Nautical Center PRGIN – Repair shipyard ŠIBENIK – Šibenik, Montmontaža-Greben - Vela Luka, Nautical Center MOKOŠICA – Mokošica, etc. The total revenue of this shipbuilding branch in 2006 was HRK 514.2 million.

These shipyards can undoubtedly count on the continuous employment of their capacities in modernization and reconstruction of tourist and fishing fleet as well as on new orders for coast guard vessels.

BUILDING AND REPAIR OF SPORTS AND LEISURE BOATS AND SHIPS

Apart from the middle-sized shipyards, the tradition of Croatian shipbuilding is closely related to building of commercial vessels (fishing boats, passenger ships) and/or cruiser vessels and leisure boats for family outings. Rapid development of nautical tourism and the availability of modern materials have prompted great interest in the building, repair and maintenance of sports and leisure boats and ships, not only along the Adriatic coast but also inland. Today almost seventy companies are active in production

GRADNJA I POPRAK BRODICA I BRODOVA ZA SPORT I RAZONODU BUILDING AND REPAIR OF SPORTS AND LEISURE BOATS AND SHIPS

VRSTA PLOVILA / VESSEL TYPE	PROIZVODNI KAPACITET* (kom) PRODUCTION CAPACITY (pc)	PROIZVODNJA U 2006.* (kom) PRODUCTION IN 2006 (pc)*
Gumenjaci / Inflatable boats	500	150
brodice do 7,5 m / Vessels up to 7.5 m	800	480
brodice preko 7,5 m / Vessels over 7.5 m	500	400
ostala plovila za sport i rasonodu / Other vessels for sport and leisure	300	50
radni brodovi / Working boats	40	10
mega jahte / Mega-yachts	10	-
UKUPNO / TOTAL	2.150	1.090
* procjena HGK / * Estimation by CCE		

NAJVEĆE BRODOGRAĐEVNE TVRTKE PREMA UKUPNOM PRIHODU 2006.
THE LARGEST SHIPBUILDING COMPANIES BY TOTAL INCOME IN 2006
DM 3511 GRADNJA I POPRAK BRODOVA / BUILDING AND REPAIR OF COASTING VESSELS

Redni broj Number	Naziv tvrtke Company	Ukupni prihod (u 1000 kn) Total Income (in 1000 HRK)	Broj zaposlenih Number of employees
1.	BRODOSPLIT BRODOGRADILIŠTE d.o.o.	2.346.742	3.090
2.	ULJANIK BRODOGRADILIŠTE d.d.	1.716.063	2.025
3.	3. MAJ BRODOGRADILIŠTE d.d.	1.450.355	2.353
4.	BRODOTROGIR d.d.	861.622	1.269
5.	BRODOGRADILIŠTE KRALJEVICA d.d.	375.104	569

Izvor: FINA, Obrada HGK

Source: Financial Transactions Bureau. Processing: CCE

NAJVEĆE BRODOGRAĐEVNE TVRTKE PREMA UKUPNOM PRIHODU 2006.
THE LARGEST SHIPBUILDING COMPANIES BY TOTAL INCOME IN 2006
DM 3512 GRADNJA I POPRAK ČAMACA ZA SPORT I RAZONODU / BUILDING AND REPAIR OF SPORTS AND LEISURE BOATS AND SHIPS

Redni broj Number	Naziv tvrtke Company	Ukupni prihod (u 1000 kn) Total Income (in 1000 HRK)	Broj zaposlenih Number of employees
1.	ELAN MOTORNI BRODOVI d.o.o.	92.013	93
2.	AD BRODOVI d.o.o.	65.662	123
3.	DAMOR d.o.o.	19.839	43
4.	SAS – VEKTOR d.d.	16.978	52
5.	PRINZ ADRIATIC d.d.	15.962	39
6.	PIČULJAN MARINE d.o.o.	14.680	24

Izvor: FINA, Obrada HGK

Source: Financial Transactions Bureau. Processing: CCE

duž jadranske obale nego i u unutrašnjosti tako da se danas brodice za sport i razonodu, pretežno iz stakloplastike proizvode u više od 80 pogona, a trend osnivanja novih nastavlja se i dalje.

U 2006. godini u toj je grupaciji bilo zaposleno 1.168 radnika, a ostvaren je ukupni prihod od 433 milijuna kn.

Uz osnivanje novih pogona i usvajanja proizvodnje novih modela brodica, proizvođači su sve prisutniji na svjetskom tržištu koje prepoznaje tradicionalnu kvalitetu hrvatskih brodograditelja. U tom se pogledu posebno ističe tvrtka AD BRODOVI – Solin, nositelj laskavog priznanja "Europske jahte za 2007. godinu" osvojenog na sajmu nautike u Düsseldorfu za jedrilicu Salona 37. Pored nje istaknuti proizvođači su i ELAN MOTORNI BRODOVI – Obrovac, PRINZ ADRIATIC – Oroslavje, PIČULJAN MARINE – Rab, SAS-VEKTOR – Zadar, DAMOR – Kaštel Sućurac, MARINA SPORT – Novi Vinodolski, DONAT BOATS – Zadar, ORKA STUDIO – Zagreb, KVARNER – Rab, REFUL MARINE – Sisak, MARUŠIĆ – Brist, GRAŠO – Pula itd.

BRODOGRAĐEVNI RADOVI

Specifičan su oblik ponude u vezi s brodogradnjom usluge brodogradilištima i brodo vlasnicima:

- projektiranje i razrada radioničke dokumentacije
- izrada brodskih sekcija ili obavljanje kooperantskih radova (zavarivačkih, cjevarskih, montažnih i sličnih radova)
- antikorozivna zaštita.

of fiberglass boats and the trend on establishing new ones is continued.

In 2006 this branch of industry produced total revenue of HRK 433 million and had 1,168 employees.

As the result of the establishment of new shipyards and the implementation of new technologies in production of modern vessels Croatian boats became increasingly sought after on international market which recognized the quality of workmanship of Croatian shipbuilders. One of the most prominent shipbuilding companies is AD BRODOVI from Solin, the winner of a prestigious award "European Yacht of the Year 2007" on Boat Show in Düsseldorf for its sailing boat Salona 37. Other recognized Croatian shipbuilding companies are: ELAN MOTORNI BRODOVI – Obrovac, PRINZ ADRIATIC – Oroslavje, PIČULJAN MARINE – Rab, SAS-VEKTOR – Zadar, DAMOR – Kaštel Sućurac, MARINA SPORT – Novi Vinodolski, DONAT BOATS – Zadar, ORKA STUDIO – Zagreb, KVARNER – Rab, REFUL MARINE – Sisak, MARUŠIĆ – Brist, GRAŠO – Pula, etc.

SHIPBUILDING JOBS

Specific types of shipbuilding activity are services to shipyards and ship owners:

- design and elaboration of workshop documentation
- manufacture of ship sections or subcontractor work (welding, pipe laying, fitting and similar jobs)
- anticorrosive protection.

BRODSKA OPREMA

Uz hrvatsku brodogradnju razvija se prateća industrija brodske opreme i usluga koja u potpunosti zadovoljava međunarodne norme brodograđevne industrije s bogatim iskustvom i prestižnim referencama u opremanju najsuvremenijih brodova.

Pri Hrvatskoj gospodarskoj komori djeluje Zajednica proizvođača brodske opreme što okuplja oko 200 proizvođača brodske opreme a koji zapošljavaju 9.000 djelatnika i ostvaruju ukupni prihod od približno 600.000.000 EUR (od toga je oko 22%, odnosno 132.000.000 EUR vezano za proizvodnju brodske opreme).

Samo hrvatskim brodogradilištima su u 2006. godini isporučili brodske opreme u vrijednosti od približno 100.000.000 EUR, a s njima već sada imaju potpisane ugovore za brodove koji će se graditi do 2010. u vrijednosti od 150.000.000 EUR.

PRATEĆE INSTITUCIJE

U brodograđevnu industriju svakako valja ubrojiti i prateće djelatnosti, projektne organizacije, isporučitelje materijala i opreme te svakako i institucije "podrške":

Hrvatska brodogradnja - Jadranbrod d.d., Zagreb

Brodarski institut, Zagreb

Fakultet strojarstva i brodogradnje, Zagreb

Fakultet elektrotehnike i računarstva, Zagreb

Tehnički fakultet, Rijeka

Fakultet elektrotehnike, strojarstva i brodogradnje, Split

Veleučilišta (Zagreb, Rijeka, Split)

Hrvatski registar brodova, Split

Okosnicu razvoja i proizvodnje hrvatske brodograđevne industrije čine stručnjaci obrazovani u visokoškolskim ustanovama i stručnim školama koji jamče visoku razinu kvalitete.

Značajan doprinos u kreaciji broda imaju Brodarski institut i fakulteti, posebno na definiranju forme, sustava propulzije i upravljivosti broda, rješavanju problema vibracija i buke te konačne verifikacije broda na pokusnoj plovidbi.

Brodarski institut raspolaže velikim brojem visokoškolskih stručnjaka (doktori znanosti, magistri, dipl. inženjeri), a stručna i znanstvena djelatnost obavlja se u teorijskom i eksperimentalnom radu u više od 20 laboratorija organiziranih u različitim sektorima.

Brodarski je institut u rangu vodećih europskih institucija po kadrovskim i laboratorijskim resursima, iskustvu i opremi, od računalnih sustava do eksperimentalnih mjerenja na modelima brodova kao i u naravi (otpor broda, propulzija, pomorstvenost, upravljivost i porinuće broda).

UPRAVLJANJE KVALITETOM

U gradnji brodova hrvatska brodogradilišta pridaju veliku pozornost kvaliteti svojih radova i proizvoda. Brodogradilišta posjeduju certifikate iz skupine ISO 9000, a u postupku su prihvaćanja i ostalih značajnih certifikata u brodograđevnoj industriji (primjerice ISO 14001, OSHAS 18001 i dr.).

SHIP EQUIPMENT

Supporting ship equipment and service industries have developed alongside the Croatian shipbuilding industry. They have gained rich experience and earned prestigious references in equipping state-of-the-art ships.

Within the Croatian Chamber of Economy there is the Affiliation of Marine Equipment Manufacturers, bringing together about 200 ship equipment manufacturers which employ 9,000 workers with annual revenue of approximately EUR 6000 million (out of which 22% or EUR 132 million is related to production of marine equipment). In 2006 these companies supplied Croatian shipyards with the marine equipment in the approximate value of EUR 100 million and already negotiated and concluded contracts for the construction of new ships in the value of EUR 150 million until 2010.

SUPPORTING ESTABLISHMENTS

Supporting activities, design offices, material suppliers and, above all, assistance institutions should also be considered part of the shipbuilding industry:

CROATIAN SHIPBUILDING CORPORATION - JADRANBROD, Zagreb

INSTITUTE OF NAVAL ENGINEERING, Zagreb

FACULTY OF MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE, Zagreb

FACULTY OF ELECTRICAL ENGINEERING AND COMPUTING, Zagreb

FACULTY OF ENGINEERING, Rijeka

FACULTY OF ELECTRICAL AND MECHANICAL ENGINEERING AND NAVAL ARCHITECTURE, Split

Community colleges (Zagreb, Rijeka, Split)

CROATIAN REGISTER OF SHIPPING, Split

The backbone of development and the production of Croatian shipbuilding industry are the experts educated in institutions of higher education and vocational schools which guarantee high level of quality. The Institute of Naval Engineering and faculties play a significant role in creating a ship, particularly in defining the shape, propulsion and steering system, handling, vibration and noise problems, and also in ultimate ship certification after test navigation.

The Institute of Naval Engineering has a large number of highly qualified experts (Ph.D., M.Sc., and graduate engineer level), and professional and scientific activity is pursued on theoretical and experimental levels in over 20 laboratories organised into different departments.

The Institute of Naval Engineering ranks among the leading European institutions in terms of its human and laboratory resources, experience and equipment, from computer systems to experimental measurement performed on both model and actual ships (ship's resistance, propulsion, steerability and launching).

QUALITY MANAGEMENT

When building ships, Croatian shipyards pay great attention to the quality of their work and products. The shipyards were awarded certificates to ISO 9000 standards; the issuing of other significant certificates for shipbuilding industry is in progress (e.g. ISO 14001, OSHAS 18001, etc.).

PROMOCIJA U INOZEMSTVU

U organizaciji Hrvatske gospodarske komore i Hrvatske brodogradnje Jadranbrod d.d. velika brodogradilišta i proizvođači brodske opreme redovito nastupaju na međunarodnim sajmovima brodogradnje:

- NOR-SHIPPING u Oslu, Norveška
- POSIDONIA u Pireju, Grčka
- SMM u Hamburgu, Njemačka
- NEVA u St. Petersburgu, Rusija

Mala i srednja brodogradilišta redovito izlažu na specijaliziranim sajmovima nautičke proizvodnje u Genovi, Düsseldorfu, Splitu, Rijeci i Zagrebu gdje pobuđuju veliko zanimanje kupaca.

INTERNATIONAL PROMOTION

Croatian Shipbuilding Corporation - Jadranbrod, Zagreb, and the Croatian Chamber of Economy organise regular attendance of international shipbuilding fairs by large shipyards. The fairs include:

- NOR-SHIPPING, Oslo, Norway
- POSIDONIA, Piraeus, Greece
- SMM, Hamburg, Germany
- NEVA, St. Petersburg, Russia

Small and medium-sized shipyards make regular presentations at specialised nautical fairs in Genoa, Düsseldorf, Split, Rijeka and Zagreb where they attract great interest from numerous customers.





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