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Shipyard CAD/CAM system based on nanoCAD and BricsCAD

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20 years ago, AutoCAD

- Ritm-Hull CAD/CAM system for lofting and technological works (later **Ritm-Ship**), CRIST
- AutoCAD R10-R14, 2000-2007
- Targets: graphical and textual documents for parts manufacture, CNC programs for cutting, marking & sketching, bending data
- Used AutoCAD API, Dbase system
- 2014 **R-Ship+** system (supports AutoCAD 2010 – 2020), by a group of authors

AutoCAD Analogs

- 1998 OpenDWG Alliance
- 2003 Open Design Alliance (ODA)
- Support of work with DWG, other kinds of API
- 2008 nanoCAD (Russia)
- Similar: BricsCAD, ARES, IntelliCAD, ZWCAD, GstarCAD, …

Selection: nanoCAD, BricsCAD. Influence of Sanctions

- nanoCAD by JSC Nanosoft (Moscow) – tests started from v5.1
- nanoCAD Plus 11.0 – the last release

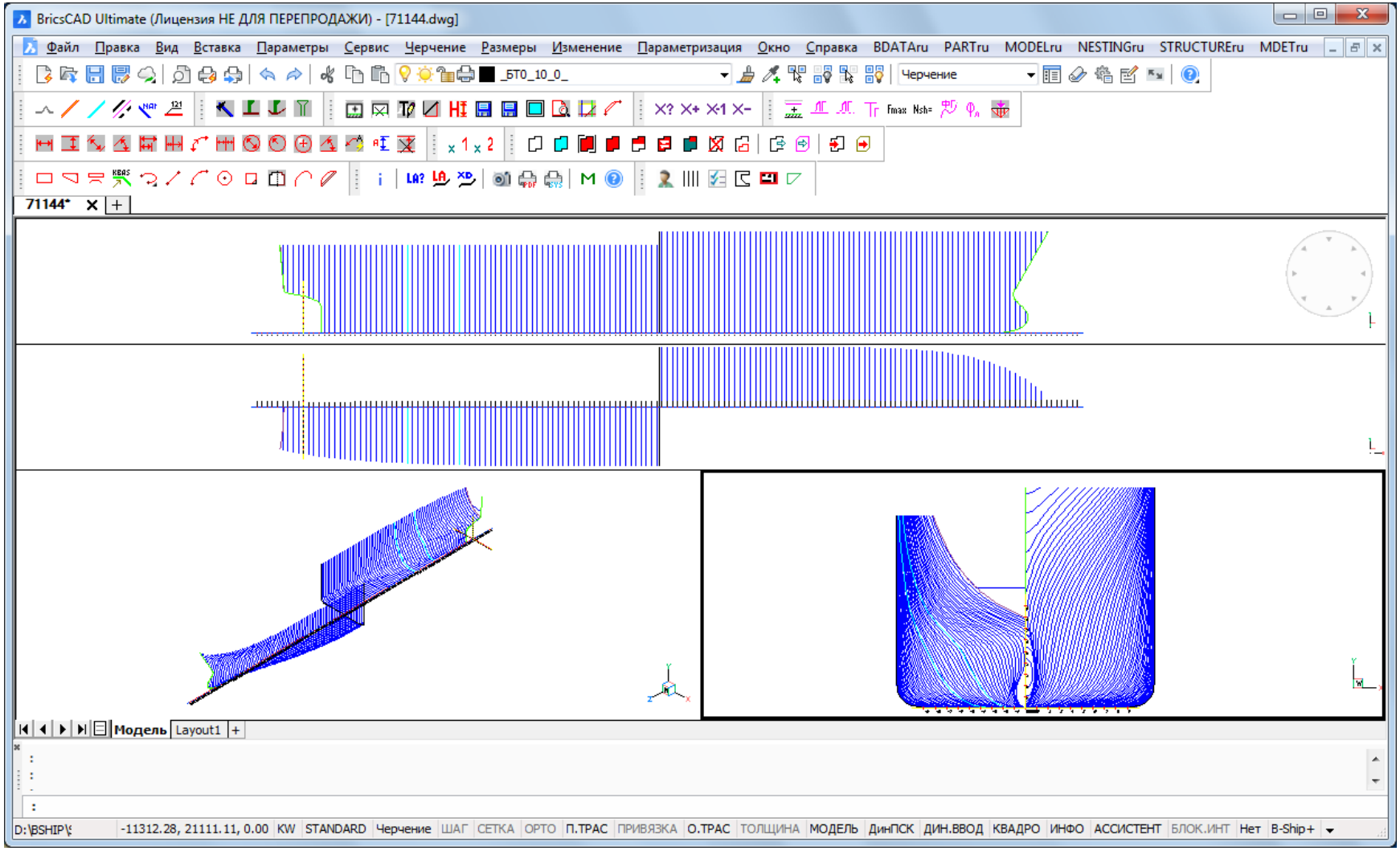
- BricsCAD by Bricsys (Belgium), with Russian interface – tests started from v14
- BricsCAD v19 – the last release
- BLADE – development environment for LISP programmer
- No buy restrictions, even after merging of Bricsys with Hexagon (Sweden)

The Book “Way to nanoCAD” (2017, in Russian)

Download PDF: **http://www.nanocad.ru/book**

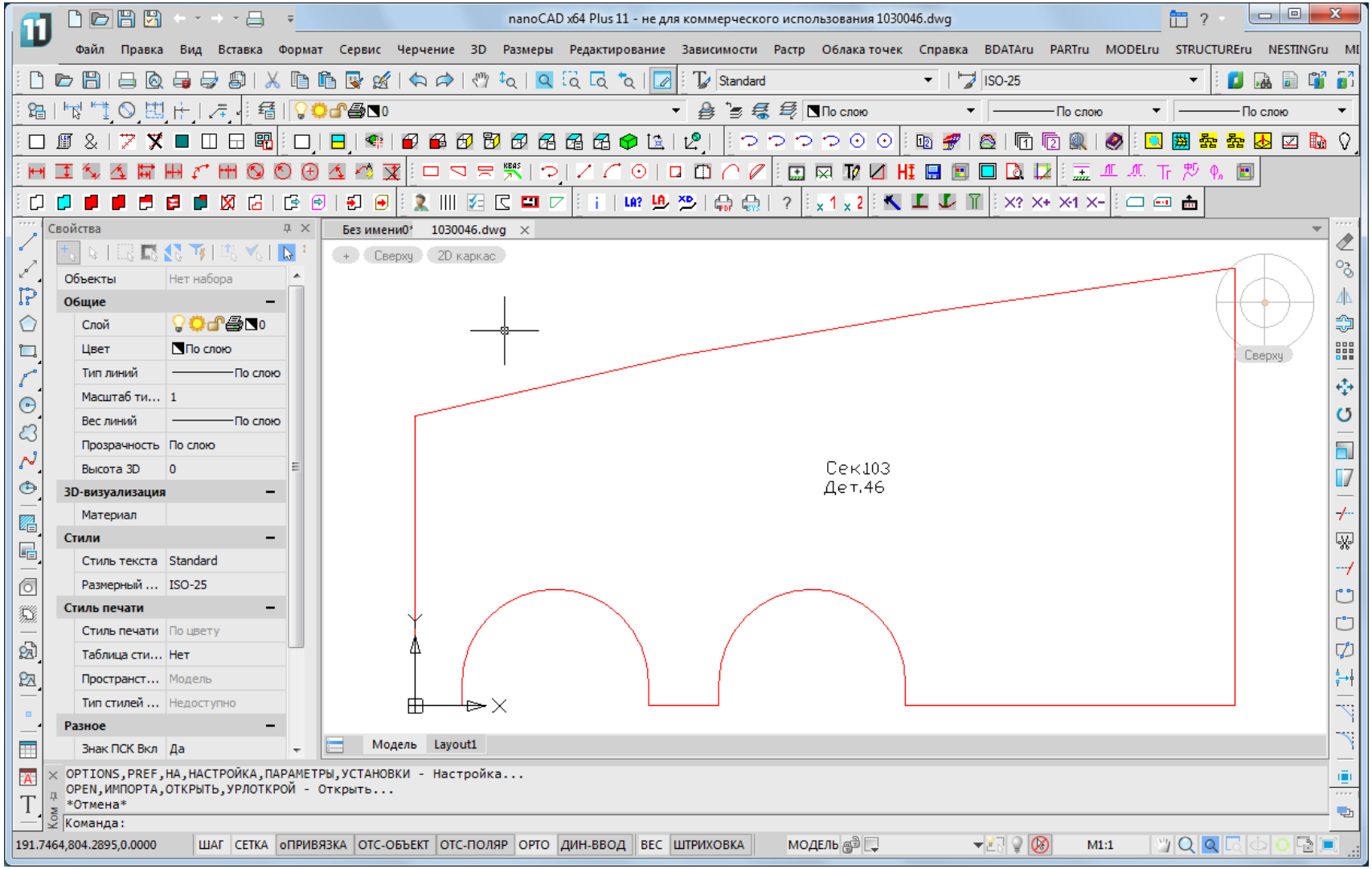
B-Ship+ System

Registered in Rospatent. Works inside BricsCAD.



N-Ship+ System

Registered in Rospatent. Works inside nanoCAD.



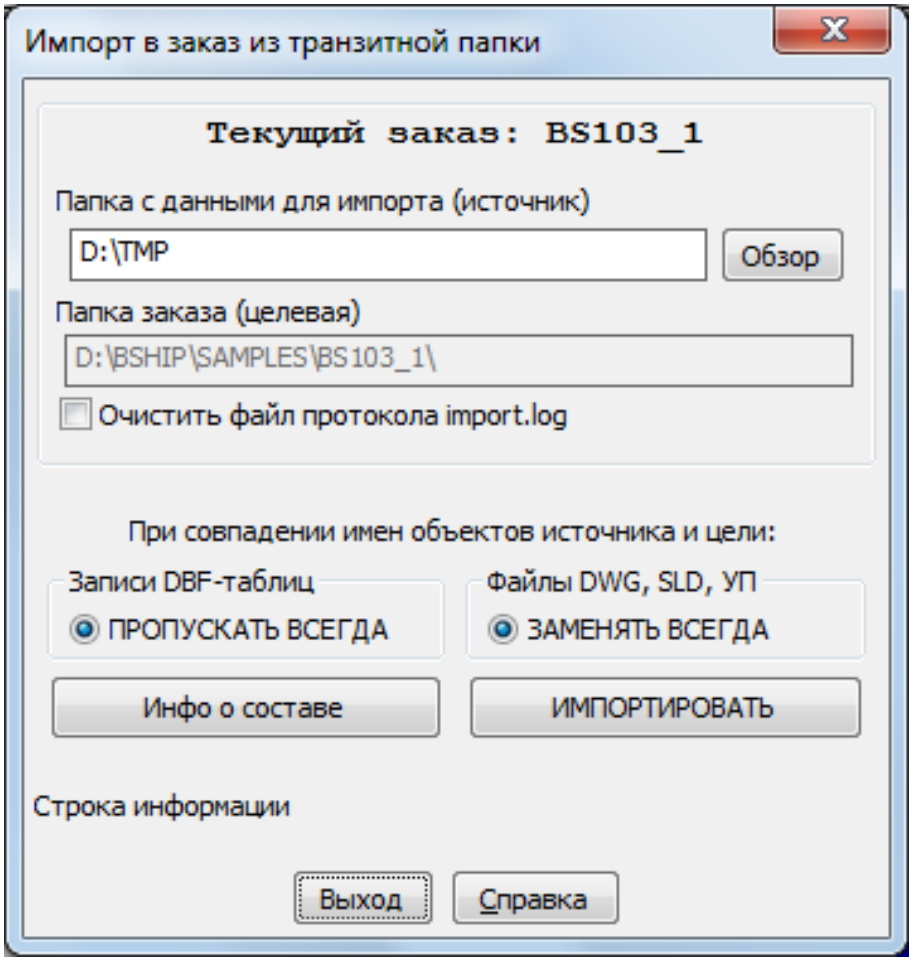
Both Systems Modules

- **Bdata** – DB management
- **Model** – preparation of 3D model
- **Structure** – building decks and platforms
- **Part** – creation of sheet and profile parts
- **Mdet** – sheet development, assembly jigs
- **Nesting** – sheet nesting, CNC

Compatible with Ritm-Ship, R-Ship+.
English interface is possible partly.

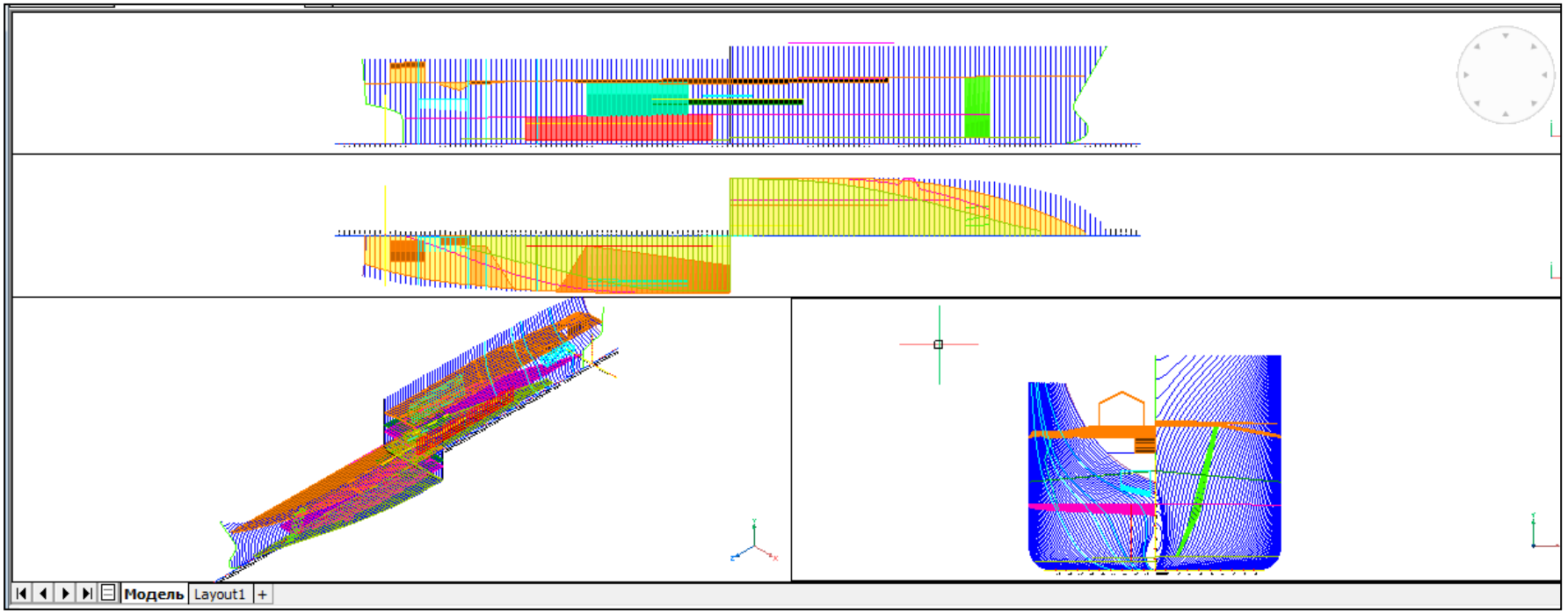
Service Management for Orders (Portions of the Ship Project)

- DBMS FoxPro, Bdata module
- Order creation, activation
- Work with tables of users, materials, drawings, parts, nesting maps etc.
- Export & import of orders



The **Model** & **Structure** Modules

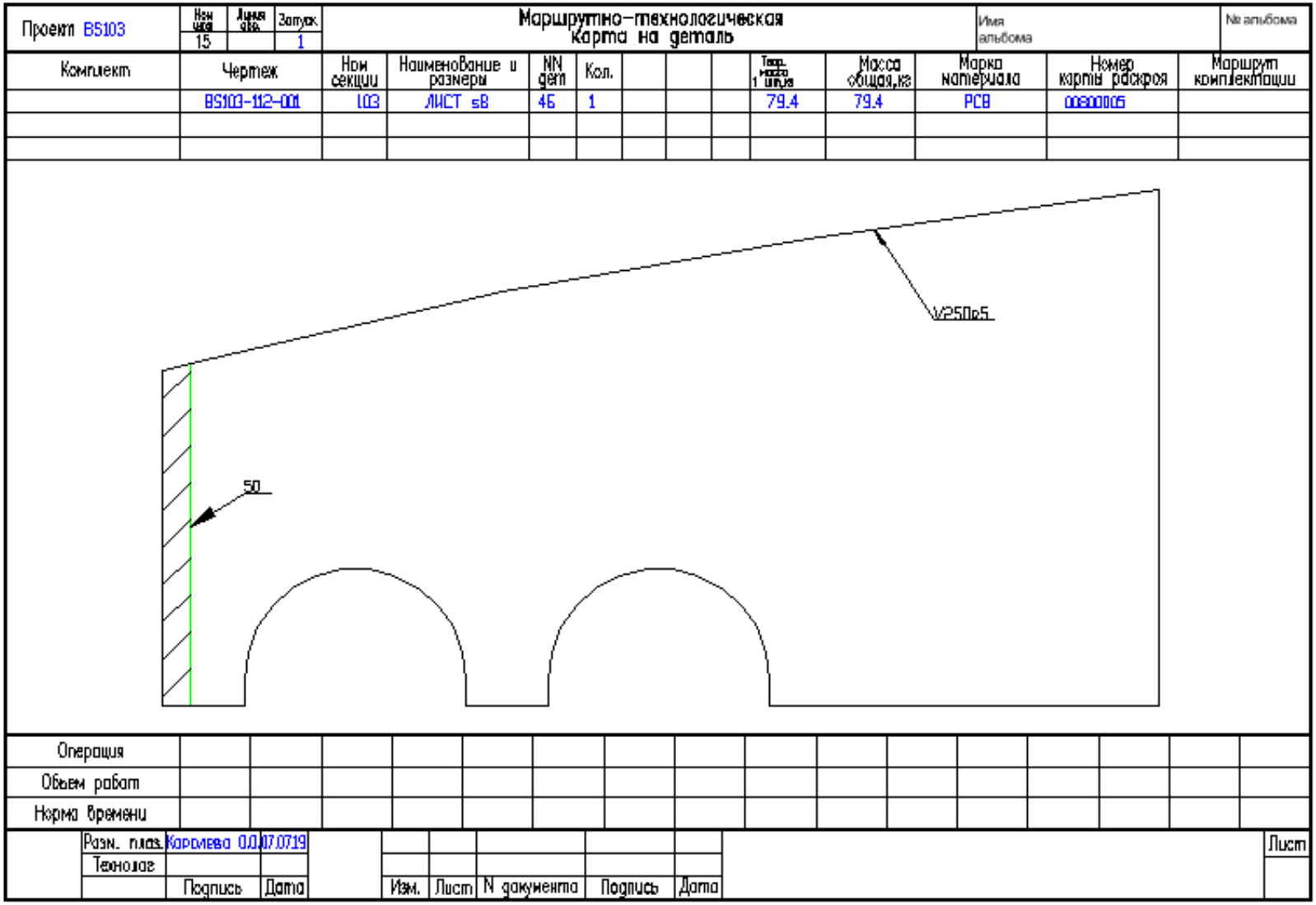
- Spacing tables
- Preparation of geometrical model, building decks and platforms
- Loftbook, shell expansion



Creation of Parts

- Part module – creation of part contours, structurization of part drawing
- Inscriptions, allowances, bevels
- Holes insertion
- Generation of TNC documents (technological and norming card with part sketch) with the form, approved by the shipyard

Forms of Part Sketch



The **Mdet** Module

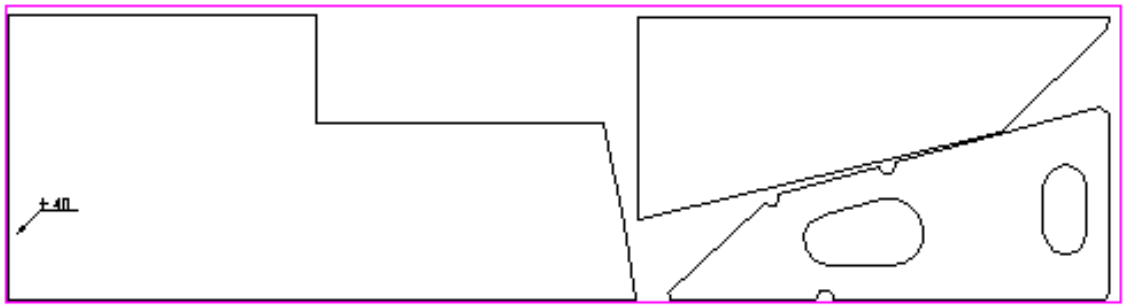
- Creation of parts geometry in 3D model
- Additional builds
- Calculation of bending data
- Shell sheets development
- Work with node tables and welding seams

Nesting Maps, Scraps Handling

- Groups of joint nesting
- Automatic nesting of sheets
- Interactive nesting of sheets
- Defining cut route, output of CNC programs
- Forming TNC for nesting maps
- Nesting spreadsheets
- Scrap nesting

TNC for Nesting Map

МАТЕРИАЛ		КАРТА РАСКРОЯ N 00800002								ОТХОДЫ шт.			
										РАЗМЕРЫ мм		РАЗМЕРЫ мм	
КОД	1122233	КОЛ-ВО ЛИСТОВ	МАССА кг		КОЭФФИЦ. РАСКРОЯ	ДЛИНА РЕЗА м	ХОЛОСТОЙ ПЕРЕХОД м	ПОЛШИРИНА РЕЗА мм	КОЛ-ВО ПРОБИВОК				
МАРКА	РСВ		ЛИСТА	ДЕТАЛЕЙ НА ЛИСТЕ									
СТАНДАРТ	1952												
РАЗМЕР ЛИСТА мм	8xd600x6000		603 кг		0.758			1.5					



N ПП.	НОМЕР ЧЕРТЕЖА	N ДЕТ.	КОЛИЧЕСТВО НА ЛИСТЕ		СЕКЦИЯ	НОМЕРА МАРШРУТОВ	N ПП.	НОМЕР ЧЕРТЕЖА	N ДЕТ.	КОЛИЧЕСТВО НА ЛИСТЕ		СЕКЦИЯ	НОМЕРА МАРШРУТОВ
			ШТ.	МАССА						ШТ.	МАССА		
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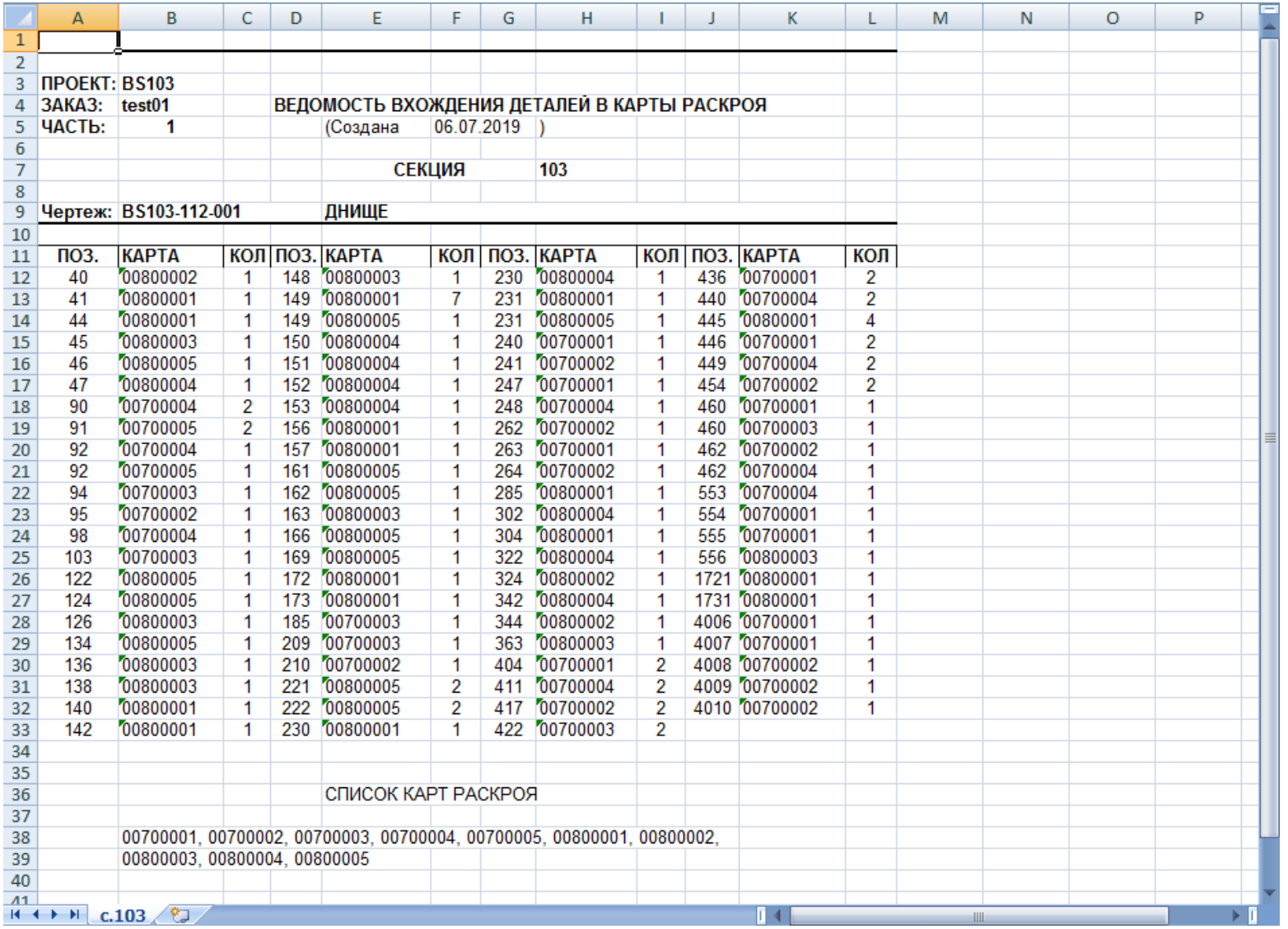
2	85103-112-001	324	1	117.94	103	2							
3	85103-112-001	344	1	82.8	103	1							

СОСТАВИЛ	ПРОВЕРИЛ						Лист
Корпышкина Н.Г.	Корпышкина Н.Г.	Изм.	Лист	N документа	Подпись	03.12.09 Дата	1

Excel Spreadsheets



ПРОЕКТ:	BS103														
ЗАКАЗ:	test01			ВЕДОМОСТЬ ВХОЖДЕНИЯ ДЕТАЛЕЙ В КАРТЫ РАСКРОЯ											
ЧАСТЬ:	1			(Создана	06.07.2019	)									
				СЕКЦИЯ		103									
Чертеж:	BS103-112-001			ДНИЩЕ											
ПОЗ.	КАРТА	КОЛ	ПОЗ.	КАРТА	КОЛ	ПОЗ.	КАРТА	КОЛ	ПОЗ.	КАРТА	КОЛ				
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	00800003, 00800004, 00800005														

BSB (OEM) Version

- Creation of OEM version for B-Ship+ is being investigated. In such a case customer need not to buy BricsCAD, because all the necessary graphical kernel functions will be integrated into B-Ship.
  BSB = BricsCAD Solution Build (OEM)

License Types
for B-Ship+, N-Ship+

- Temporary, constant
- Single place, network
- Combined
- Single place with a possibility of transfer to another computer
- Trial

User Documentation

See http://poleshchuk.spb.ru/cad/ (now only in Russian).

PDF docs are downloadable:

- Administrator's guide
- Bdata
- Model
- Structure
- Part
- Mdet (for N-Ship+ is now not accessible)
- Nesting (for N-Ship+ is now not accessible)

Technical support during 1 year.

Contacts

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http://
poleshchuk.spb.ru/cad/
eng.html

Thank you for your attention!