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Customer References

Parametric and associative configuration
of a semi-trailer

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Contents

>01

Presentation of the case

- >The customer
- >The objective



>02

Techniques used

>03

Conclusions



>01

Presentation of the case

The Customer

MENCI & C. SPA was founded in 1927 in Castiglion Fiorentino, in the province of Arezzo, by GEREMIA MENCI, a skilled blacksmith who produced agricultural machines and equipment, particularly ploughs.

A specialisation that seemed to mark the future of the company, so much so that he continued over the years without the need to stray into unknown territory.

Not even with the entrance of his three sons, Adriano, Luciano and Francesco, into the company in the 1960s, did Menci abandon its roots in the agricultural sector.

It was precisely this specialisation, in fact, which led to the outfitting of the first tank for the transport of animal feed in the 1970s.

An event that marked the debut of Menci in the world of industrial transportation and opened up new production prospects for the company.



However Menci was to wait a further several years, until the beginning of the 1990s, before experiencing a real qualitative leap.

The opportunity presented itself, as often happens, during a period of crisis. In this case the agricultural sector that was forced to boost production destined for road use.

The manufacture of feed tanks had developed remarkable aluminium welding capacities in its workers and this allowed Menci to revolutionise its production.



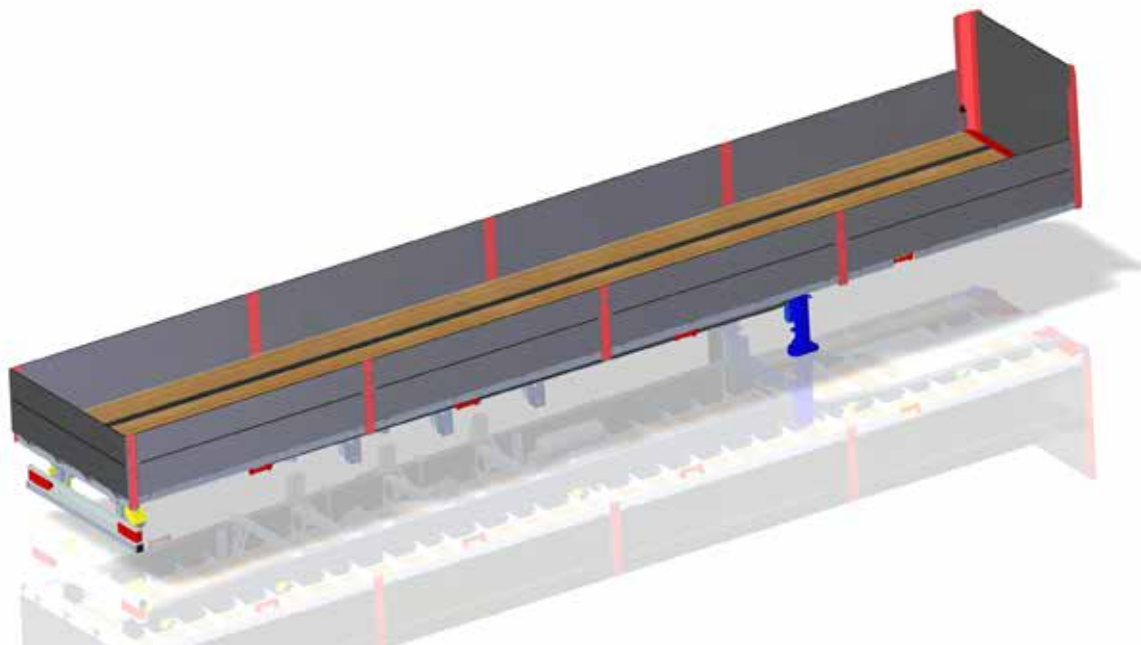
›01

Presentation of the case

The Objective

The aim of the project was to make the following activities possible:

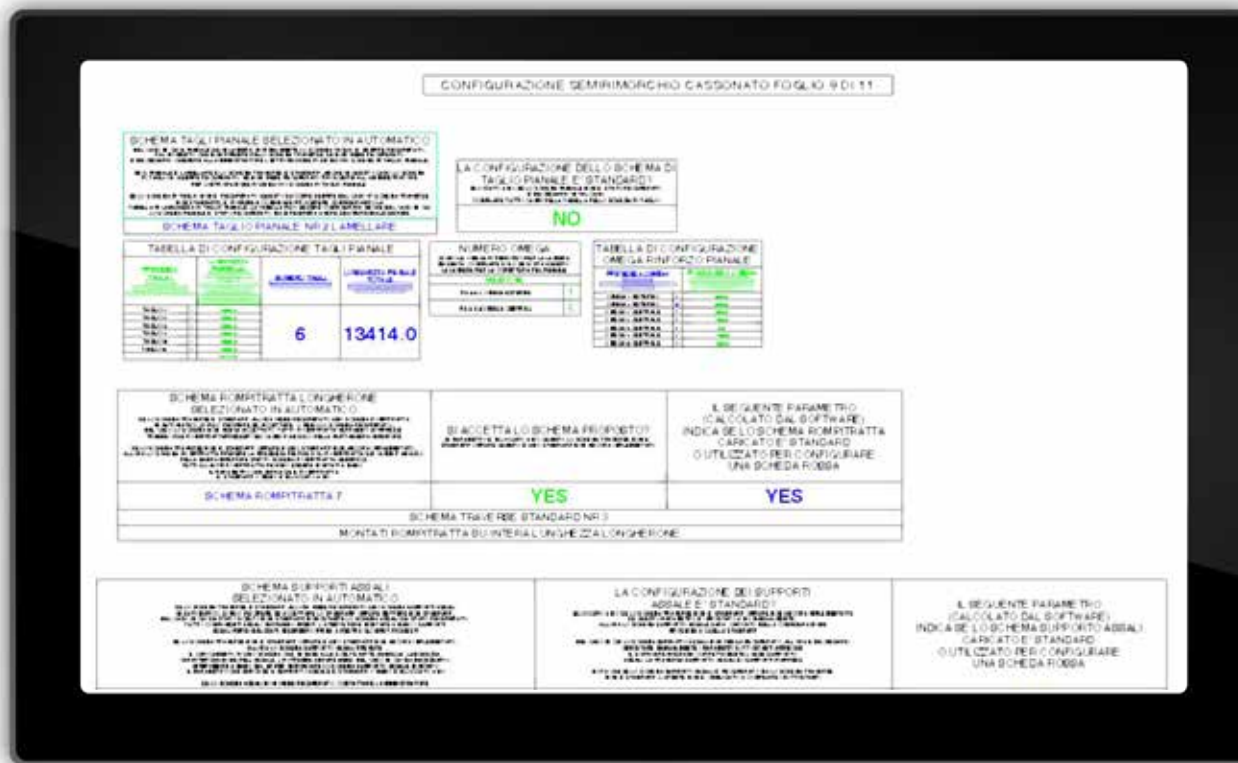
› Build a model with the intelligence and ability to be configured in both a parametric and associative manner from a simple, interactive user interface, so that the Product being analysed could be set up with all the construction parts.



› Define all the construction characteristics in respect of the manufacturing studies identified.

› Produce all the engineering bills of materials at the same time to then be sent to the Management System.

›02 Techniques Used -A



A) The set-up of the activity entails extensive use of the AAX (Advanced Assembly Extension) module which enables all the copy functions in the different work environments to be exploited, allowing the propagation of the geometries and attributes in associative mode.

›02 Techniques used -B

NUMERO VERRICELLI
SELEZIONATO: 12

TIPO VERRICELLI PIANALE
TIPO: STANDARD

DISTANZA VERRICELLI DA BORDO BANDA LATERALE
20.0

PRESENZA GANCI
PRESENZA E TIPO: SÌ

POSIZIONE GANCIO
INTERNO

DISTANZA GANCI DA BORDO BANDA LAT.
65.0

PRESENZA FORO SU BANDE LATERALE PER PASSAGGIO CINGHIA FISSAGGIO CARICO?
YES

LARGHEZZA FORO
80.0

LUNGHEZZA FORO
40.0

OFFSET FORO BORDO BANDA LATERALE
6.0

SCHEMA CONFIGURAZIONE VERRICELLI SELEZIONATO IN AUTOMATICO
SCHEMA VERRICELLI NR 12

LA CONFIGURAZIONE DEI VERRICELLI PIANALE E' STANDARD?
NO

TABELLA DI CONFIGURAZIONE VERRICELLI PIANALE

PRESENZA VERRICELLI	NO. MANOVRA	NO. MANOVRA	NO. MANOVRA	NO. MANOVRA	NO. MANOVRA	NO. MANOVRA	NO. MANOVRA
VERRICELLO 1	1	1	1	1	1	1	1
VERRICELLO 2	1	1	1	1	1	1	1
VERRICELLO 3	1	1	1	1	1	1	1
VERRICELLO 4	1	1	1	1	1	1	1
VERRICELLO 5	1	1	1	1	1	1	1
VERRICELLO 6	1	1	1	1	1	1	1
VERRICELLO 7	1	1	1	1	1	1	1
VERRICELLO 8	1	1	1	1	1	1	1
VERRICELLO 9	1	1	1	1	1	1	1
VERRICELLO 10	1	1	1	1	1	1	1
VERRICELLO 11	1	1	1	1	1	1	1
VERRICELLO 12	1	1	1	1	1	1	1

B) Use of the Family Tables has been enhanced as well as the use of the “Execute” functions that are present together.

>02 Techniques used -C

SCHEMA TAGLIO BANDE SELEZIONATO IN AUTOMATICO
SE LO SCHEMA TRAVEVERE E' STANDARD E NON VIENE RECUPERATO ALCUNO SCHEMA DI TAGLIO DI BANDE LATERALI CONTATTARE AMMINISTRATORE PER INTRODUZIONE SCHEMA MANCANTE. IN ALTERNATIVA SI PUO' METTERE UNO SCHEMA DI TAGLIO NON STANDARD E COMPILARE MANUALMENTE LA TABELLA.

SE LO SCHEMA TRAVEVERE NON E' STANDARD ALLORA NON VIENE RECUPERATO ALCUNO SCHEMA DI TAGLIO. SI DEVE COMPILARE MANUALMENTE TUTTA LA TABELLA DI CONFIGURAZIONE DELLO SCHEMA DI TAGLIO DELLE BANDE LATERALI.

IL PARAMETRO CHE STABILISCE SE LO SCHEMA DI TAGLIO E' STANDARD O NO E' BLOCCATO A NO.

SCHEMA TAGLIO BANDE RECUPERATO (VEDI TABELLA)

LA CONFIGURAZIONE DELLO SCHEMA DI TAGLIO BANDE LATERALI E' STANDARD?
BLOCCATO A NO SE LO SCHEMA TRAVEVERE NON E' STANDARD. E' NECESSARIO IN TAL CASO COMPILARE TUTTI I CAMPI DELLA TABELLA DELLO SCHEMA DI TAGLIO.

NO

TABELLA DI CONFIGURAZIONE TAGLI BANDE LATERALI

<small>NON TRAVEVERE CONTRIBUIRE A BANDA TRAVEVERE SECONDO LO SCHEMA DI TAGLIO. SE LO SCHEMA TRAVEVERE E' STANDARD, IL TAGLIO E' AUTOMATICO. IN ALTERNATIVA SI PUO' METTERE UNO SCHEMA DI TAGLIO NON STANDARD E COMPILARE MANUALMENTE LA TABELLA.</small>	<small>LUNGHEZZA BANDE IN STRADA/BANDA</small>	<small>TIPO BANDA LATERALE</small>	<small>NUMERO TAGLI SU BANDE LATERALI RIPETUTO DAL NUMERO DELLA BANDE DEL NUMERO DI TRAVEVERE RICHIESTE.</small>
TAGLIO 1	3	BANDA 1: 10.90.0	7
TAGLIO 2	8	BANDA 2: 13.90.0	
TAGLIO 3	3	BANDA 3: 870.0	
TAGLIO 4	10	BANDA 4: 870.0	
TAGLIO 5	14	BANDA 5: 17.40.0	
TAGLIO 6	18	BANDA 6: 870.0	
TAGLIO 7	10	BANDA 7: 870.0	
		BANDA 8: 5681.0	

SCHEMA LUCI BANDE SELEZIONATO IN AUTOMATICO
SE LO SCHEMA TRAVEVERE E LO SCHEMA VERIFICELLI SONO STANDARD E NON VIENE RECUPERATO ALCUNO SCHEMA LUCI PER BANDE LATERALI CONTATTARE AMMINISTRATORE PER INTRODUZIONE SCHEMA MANCANTE. IN ALTERNATIVA SI PUO' METTERE UNO SCHEMA DI LUCI NON STANDARD E COMPILARE MANUALMENTE LA TABELLA.

SE UNO TRA LO SCHEMA TRAVEVERE O VERIFICELLI NON E' STANDARD ALLORA NON VIENE RECUPERATO ALCUNO SCHEMA LUCI PER BANDE. SI DEVE COMPILARE MANUALMENTE TUTTA LA TABELLA DI CONFIGURAZIONE DELLO SCHEMA DI TAGLIO DELLE BANDE LATERALI.

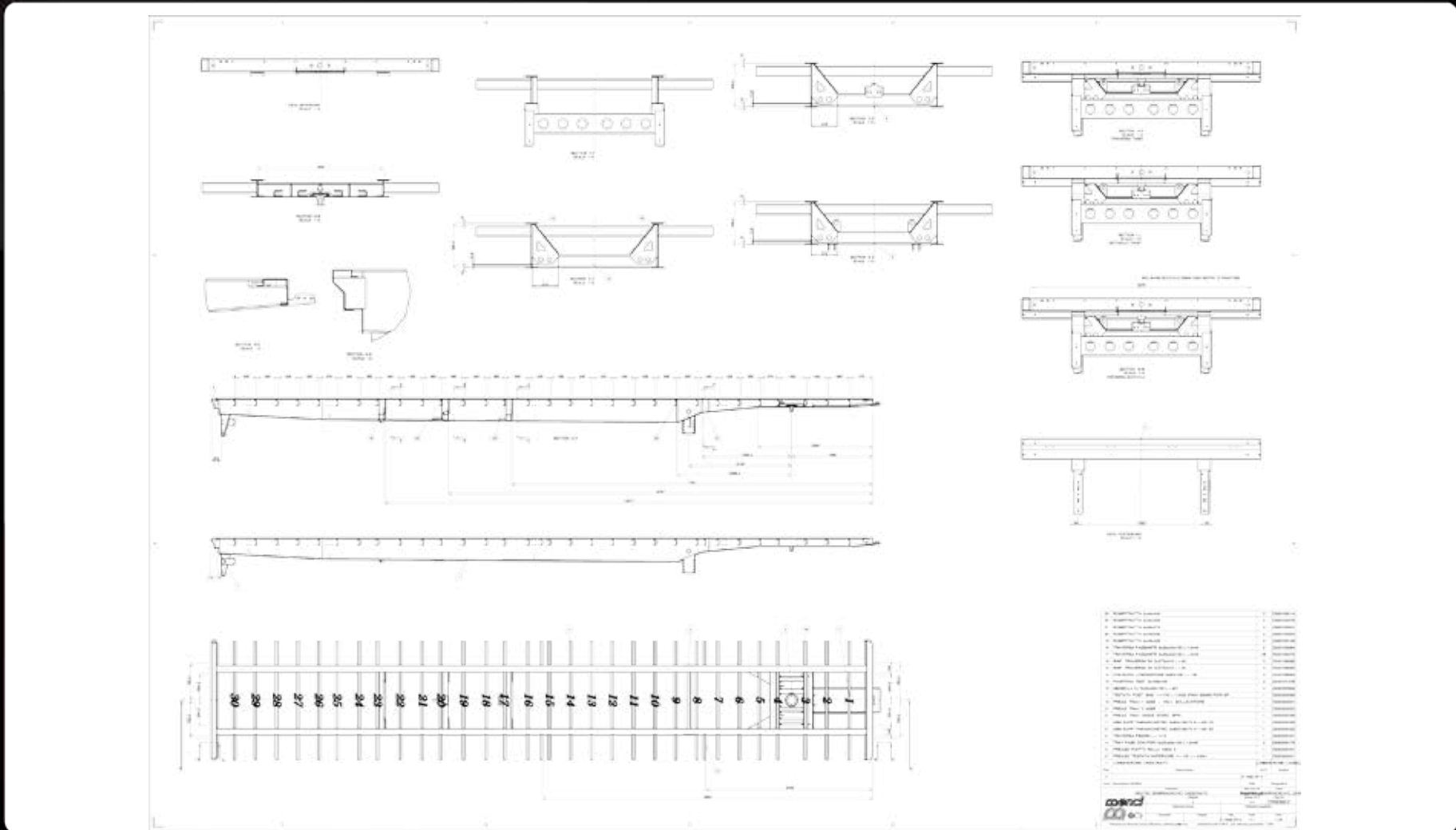
IL PARAMETRO CHE STABILISCE SE LO SCHEMA DI TAGLIO E' STANDARD O NO E' BLOCCATO A NO.

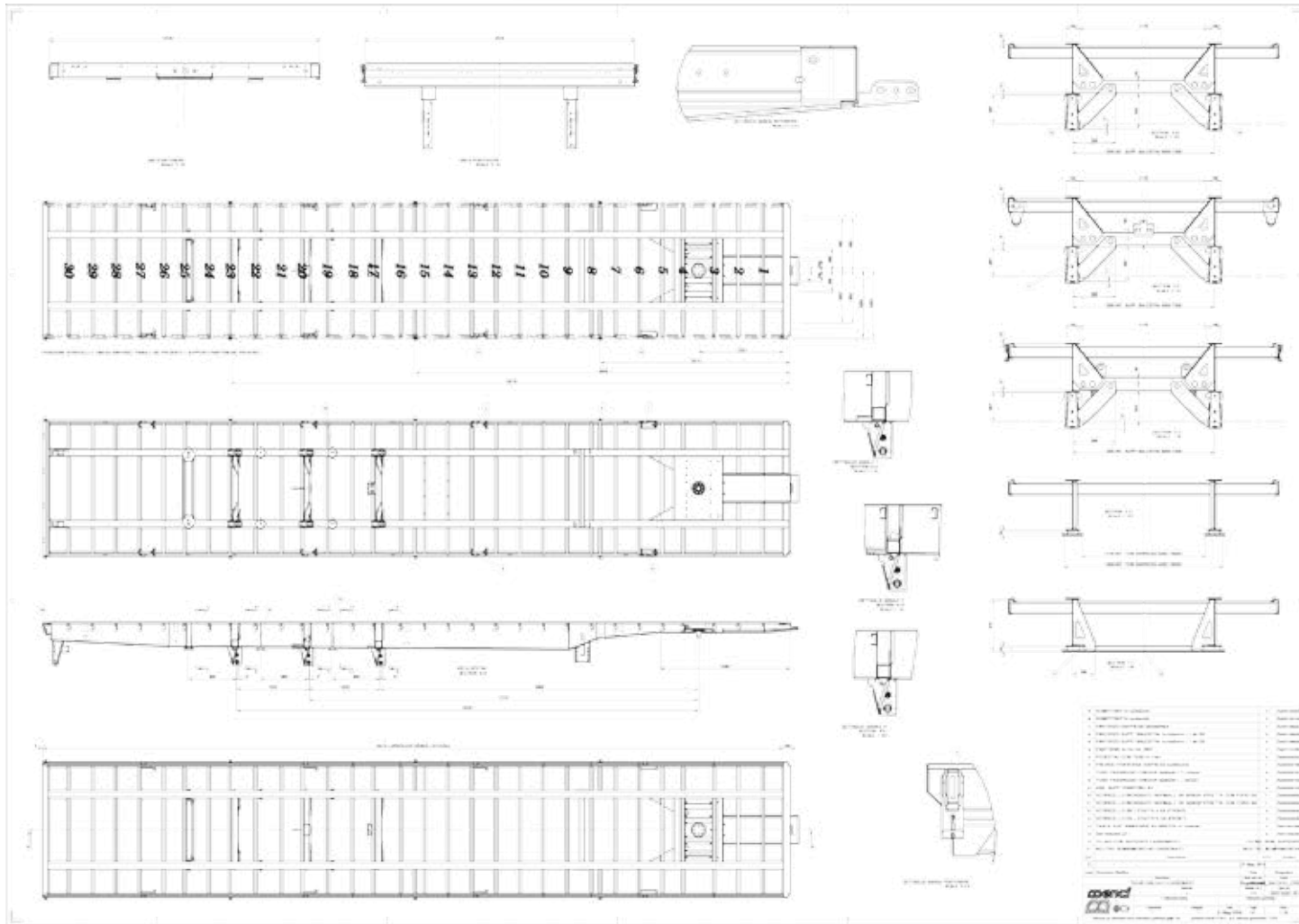
SCHEMA LUCI NON TROVATO

LA CONFIGURAZIONE DLO SCHEMA DI LUCI BANDE LATERALI E' STANDARD?
BLOCCATO A NO SE LO SCHEMA TRAVEVERE O LO SCHEMA VERIFICELLI NON SONO STANDARD. E' NECESSARIO IN TAL CASO COMPILARE TUTTI I CAMPI DELLA TABELLA DELLO SCHEMA LUCI.

NO

C) The Pro/Programm function is used at the programming level of the Drawing.





>03 Conclusions



The parametric approach enables the full specifications of a complete trailer to be produced in less than 19 seconds in terms of regenerating the Model and 9 min for the regeneration when opening the 2D Drawings.



Control of the entire project in relation to all areas of investigation.



Speed of execution and bi-directional Part Vs. Assembly Vs. Drawing control in Real Time

Thank



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