

# AFTER THE PROJECT

**SURVEY ON THE VALUE  
OF DESIGN QUALITY  
IN PUBLIC WORKS**

**THE CASE OF SCHOOLS**



**CNA  
PPC**

CONSIGLIO NAZIONALE  
DEGLI ARCHITETTI  
PIANIFICATORI  
PAESAGGISTI  
E CONSERVATORI

**RICERCA A CURA DI CRESME SPA**



# **AFTER THE PROJECT**

## **SURVEY ON THE VALUE OF DESIGN QUALITY IN PUBLIC WORKS**

### **The Case of Schools**

Final report of the survey on the timing and quality of public school design commissioned by the Italian National Council of Architects, Planners, Landscape Architects and Conservationists from Cresme Europa Servizi.

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## *Foreword*

### *WHY THIS RESEARCH*

After COVID, Italy benefited from substantial European funding under Next Generation EU (NGEU), which, through the PNRR – National Recovery and Resilience Plan – made it possible to relaunch the economy after the pandemic crisis through reforms and structural investments, often associated with the “Italia Domani” portal.

A significant share of this funding has made it possible to modernise the infrastructure system and improve the stock of public buildings.

Until 2023, the public procurement system was governed by Legislative Decree No. 50/2016, which provided for several procurement procedures for construction contracts, including the Design Competition, organised in two anonymous stages, with access to the second stage through selection carried out in the first stage. Participants admitted to the second stage received reimbursement of expenses, and the winner was awarded the design services contract.

To encourage the use of the Design Competition, the National Council of Architects, Planners, Landscape Architects and Conservationists made available, free of charge, a certified digital platform compliant with current legislation, through which local administrations could upload tender documents, participants could access the documents and upload their proposals, and all stages of the competition could be managed at no cost for the administrations, with costs borne by the National Council.

This system made it possible to manage around 200 design competitions per year.

In 2023, the new Public Procurement Code (Legislative Decree No. 36/2023) entered into force. While it still provides for the use of design competitions, it reduced the design stages from three (preliminary design, definitive design and executive design) to only two stages (technical-economic feasibility design and executive design). It also established Integrated Procurement (Design & Build) and the Most Economically Advantageous Tender (M.E.A.T.) as the main procurement systems. The Architectural Design Competition (ADC) has therefore been reduced to a residual role and, in fact, by 2025 the number of competitions announced in Italy had fallen from around 200 per year to fewer than 10.

This new direction adopted by the Italian Ministry reflects the pursuit of greater system efficiency, based on the assumption that reducing the number of design stages shortens delivery times and that combining design and construction in a single contract guarantees economy and efficiency more effectively than other systems in use. The National Council of Architects, Planners, Landscape Architects and Conservationists therefore commissioned an authoritative company specialising in economic and statistical research, CRESME SpA, to conduct a study on the effects of different procurement methods on buildings delivered through the three main procurement systems used in Italy over the last ten years, in order to obtain objective answers rather than ideological positions or views influenced by vested interests.

In particular, given that over the last ten years design services procurements in Italy have been awarded through design competitions, most economically advantageous tenders, and integrated procurement procedures, the following questions were asked:

What are the differences in design time for a public building when design is procured through each of the three procurement methods?

What are the differences in construction time for a public building when design is procured through each of the three procurement methods?

What are the differences in total design and construction time for a public building when design is procured through each of the three procurement methods?

What are the differences in design costs for a public building when design is procured through each of the three procurement methods?

What are the differences in construction costs for a public building when design is procured through each of the three procurement methods?

What are the differences in combined design and construction costs for a public building when design is procured through each of the three procurement methods?

What are the differences in construction cost per square metre for a public building when design is procured through each of the three procurement methods?

What are the qualitative differences in a public building when design is procured through each of the three procurement methods?

The answers to these questions are intended to provide evidence of the actual efficiency and convenience of the procurement methods used in Italy over the last ten years in terms of the time required to obtain the building put out to tender, its final cost, and its quality with respect to compliance with the requirements needed for that building's function.

CRESME SpA was asked to use the data contained in the ONSAI database (National Observatory of Architecture and Engineering Services), which collects detailed information on all tenders issued in Italy, approximately 10,000 tenders per year, in order to select a number and type of buildings suitable to ensure the truthfulness and reliability of the requested results.

School buildings were chosen as the subject of the research because they have characteristics that are readily comparable and suitable for the purposes of this study.

## RESEARCH METHODOLOGY

The results of a prototype survey on public school design are presented here in summary form. The survey compares three different types of tendering procedure: the design competition, integrated procurement, and other design tenders.

The survey focuses on the timing and costs associated with the different types of tendering procedure.

The analysis is based on data systematically collected by Cresme Europa Servizi and is structured as follows:

- Territorial scope: national.
- Economic size of the interventions: above and below the European threshold of EUR 5.5 million.
- Reference period for tenders to be analysed: 2015–2024.

The analytical process was as follows:

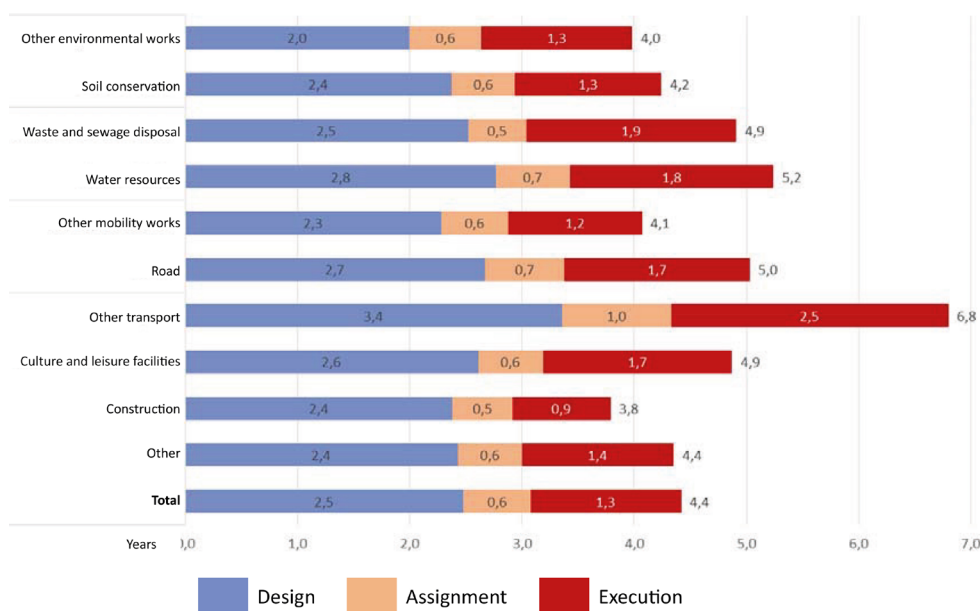
- from an initial 9,000 tenders, 300 were selected on the basis of specific affinity characteristics, comprising 100 design competitions with subsequent stages awarded to the winner, 100 integrated procurements, and 100 other design tenders.
- The different tender types were then analysed and the evaluation criteria for technical offers were defined and classified according to how they evolved.
- Subsequently, 100 project tenders were selected for monitoring from award to completion on the basis of the analysis performed: 40 design competitions with subsequent stages awarded to the winner, 30 other design tenders, and 30 integrated procurements.
- The history of each selected project was then analysed in order to define efficiency and the impact of design quality, with reference to execution times and costs for both design and construction, and to verify compliance with the criteria that had led to award on the basis of the required quality.
- The study was completed in December 2024, with an appendix completed in March 2026.

# 1. THE TIMING PROBLEM IN PUBLIC WORKS

One of the major historical issues in public works has always been delivery time. This issue has been examined by several studies. In 2018, the Cohesion Agency, within the framework of the Territorial Public Accounts, analysed a large sample of public works and highlighted the criticalities of “transition times” from one phase to another in the decision-making process.

The “transition times” required to reach the execution phase accounted, depending on the size of the work, for between 44.0% and 54.3% of the total delivery time.

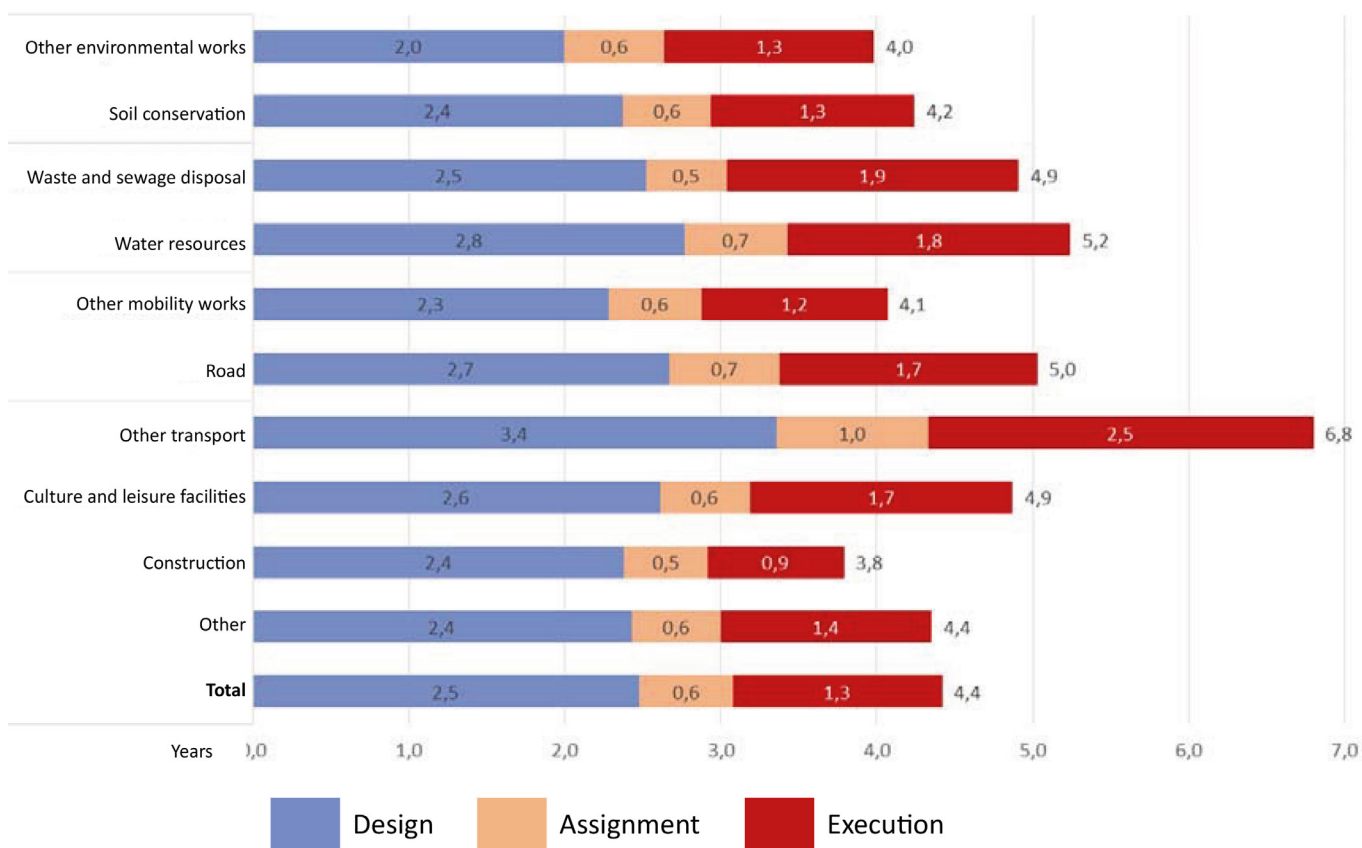
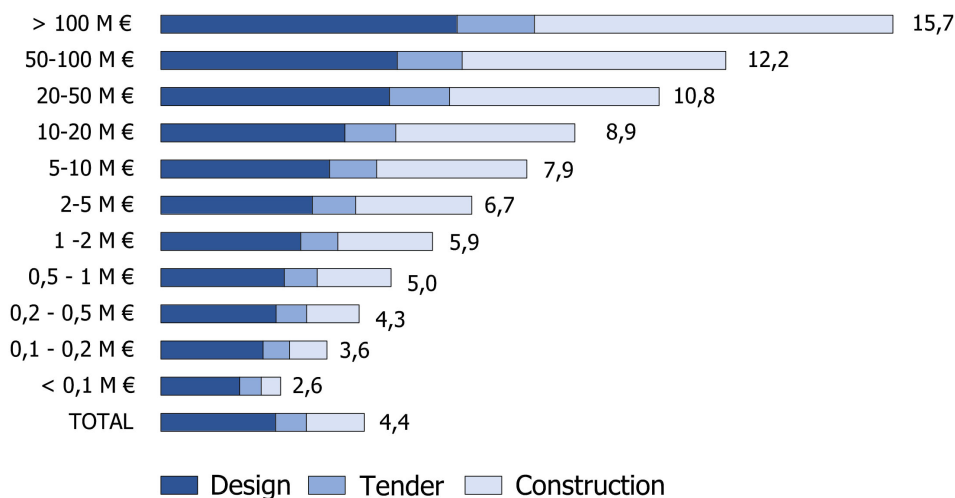
## Cohesion Agency analysis in 2018 Public works times by sector and phases



Source: ACT - NUVEC processing based on monitoring data as of December 31, 2017 from BDU and SGP databases

## Cohesion Agency analysis in 2018

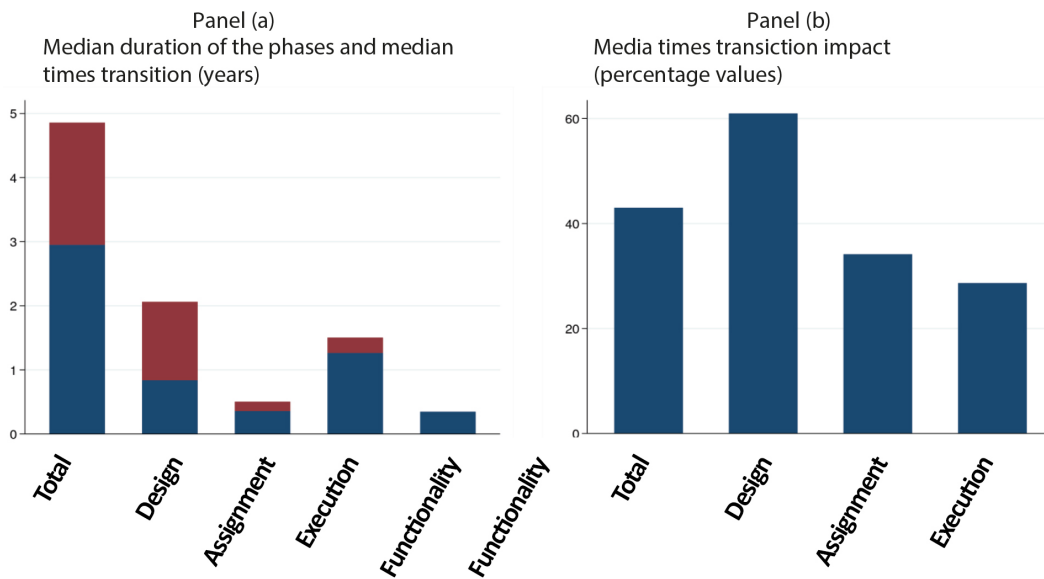
### Public works times by cost classes and phases (in years)



ACT - NUVEC processing based on monitoring data as of December 31, 2017, from BDU and SGP databases

In 2019, the Bank of Italy also analysed the problem of “inter-phases”, that is, the transition times between one operational phase and another. In particular, the Bank of Italy’s analysis showed that transition times had a different incidence in design, procurement and execution activities. In the design phase alone, transition phases accounted for 60% of the time.

**Bank of Italy analysis in 2019 – Transition times**  
**Median duration of the phases and transition times impact**



Panel (a) shows, for the entire construction cycle and its individual phases, the estimated median duration of the operational phases (blue) and the estimated median transition times (red). Panel (b) shows, for the entire construction cycle and its individual phases, excluding the functionality phase, the average incidence of transition times, calculated as the average of the ratio of estimated transition times and the estimated overall duration of the operational phase and its associated interfaces.

Preliminary design		Final design		Executive design		Assignment		Construction phase		Functionality
Execution phase	Interphase	Execution phase	Inter-phase	Execution phase	Inter-phase	Fase operativa	Inter-phase	Execution phase	Inter-phase	Execution phase
Fase di progettazione										

Source: CRESME elaboration on Bank of Italy data-

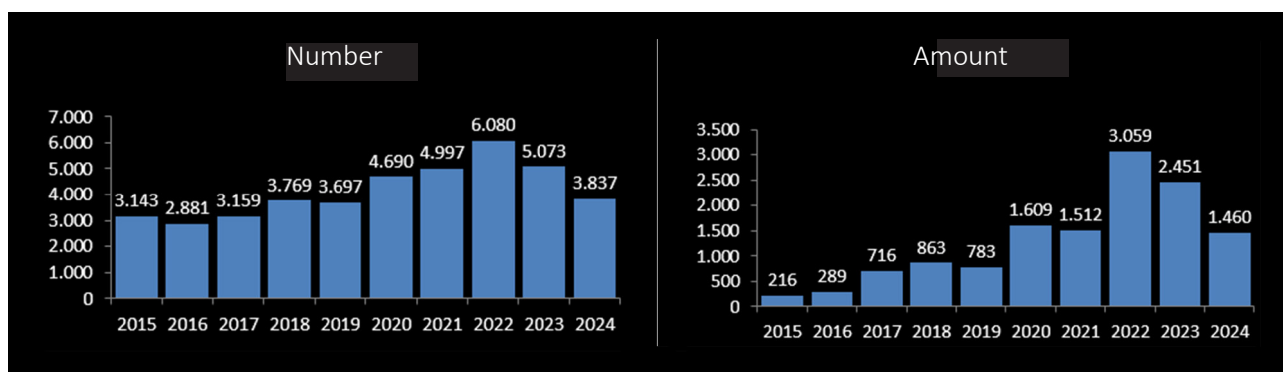
In 2022, the Parliamentary Budget Office also addressed the issue of public works timing and, on the basis of a sample of public works, found that in the decade 2012–2021, within the sample of completed works contracts, pre-award phases (55.1%) and award phases (20.7%) together accounted for 75% of total project delivery time.



## 2. PUBLIC WORKS IN ITALY AND THE ISSUE OF DESIGN

The boom in public works that characterised the country in the years 2020–2024 also translated into a corresponding boom in the design of public works, well documented by the ONSAI Observatory, prepared by CRESME Europa Servizi for the National Council of Architects, Planners, Landscape Architects and Conservationists (CNAPPC).

Design tenders by year: the On Sai Cnappc CRESME ES observatory



### Growth in Design



Source: ONSAI - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

Growth occurred both in the number and in the value of tenders: design tenders increased from EUR 783 million in 2019 to a peak of EUR 3 billion in 2022. In 2023 the figure fell to EUR 2.4 billion and in 2024 to EUR 1.5 billion, marking the beginning of a new phase.

If tenders for other Architecture and Engineering Services and for “other technical services” are also included, the value of tenders relevant to designers rose from EUR 1.4 billion in 2019 to EUR 4.2 billion in 2022 and EUR 4.1 billion in 2023. In 2024, a reduction to EUR 2.7 billion was recorded, in line with expectations, but this value was still 93% higher than in 2019.

Between 2020 and 2024, tenders relevant to the activity of designers totalled 24,677, for an overall amount of EUR 10.1 billion.

As already noted, the growth in public works also affected the building sector. Within this context, building works for education and research, which frame the focus of the present work on schools, saw 5,306 design tenders between 2020 and 2024, amounting to EUR 779 million.

### Design tender notices by functional destination – Number and value of tenders (amounts in EUR million)

	2020	2021	2022	2023	2024	2020-2024
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
Education, research	1.137	1.050	1.566	1.071	482	5.306
Healthcare	265	238	538	269	233	1.543
Infrastructure and mobility services	917	966	846	764	640	4.133
Culture, social life, sport, worship	580	549	910	828	558	3.425
Soil protection and environmental remediation	466	666	330	273	418	2.153
Administrative, judicial and law-enforcement facilities	348	396	370	411	530	2.055
Energy, water, waste and telecommunications	389	456	481	551	370	2.247
Other	588	676	1.039	906	606	3.815
<b>TOTAL</b>	<b>4.690</b>	<b>4.997</b>	<b>6.080</b>	<b>5.073</b>	<b>3.837</b>	<b>24.677</b>
	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)
Education, research	165	157	156	211	89	779
Healthcare	89	158	830	289	117	1.483
Infrastructure and mobility services	993	567	640	944	539	3.683
Culture, social life, sport, worship	72	83	620	277	103	1.155
Soil protection and environmental remediation	69	123	42	43	64	341
Administrative, judicial and law-enforcement facilities	79	103	183	203	89	657
Energy, water, waste and telecommunications	86	168	146	275	242	917
Other	56	151	442	209	217	1.075
<b>TOTAL</b>	<b>1.609</b>	<b>1.512</b>	<b>3.059</b>	<b>2.451</b>	<b>1.460</b>	<b>10.090</b>

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data

## The importance of building design for education and research

**2020-2024**  
**NUMBERS: 22%**  
**AMOUNTS: 8%**

Design activity increased across all territorial areas of the country, but especially in Central and Southern Italy, which accounted for 55% of the value of design tenders in 2020–2023.

### Design tender notices by territory – year and period – Number and value of tenders (amounts in EUR million)

	2020	2021	2022	2023	2024	2020-2024
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
North-West	834	925	1.115	885	865	4.624
North-East	620	541	792	680	570	3.203
Centre	804	852	1.144	850	690	4.340
South	1.364	1.730	2.055	1.814	1.120	8.083
Islands	1.008	938	966	828	569	4.309
Unallocated or abroad	60	11	8	16	23	118
TOTAL	4.690	4.997	6.080	5.073	3.837	24.677
	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)	AMOUNT (EUR million)
North-West	275	386	598	329	210	1.797
North-East	227	233	469	422	254	1.605
Centre	286	330	847	1.006	416	2.886
South	345	373	778	475	462	2.434
Islands	171	138	366	203	117	995
Unallocated or abroad	305	51	1	15	0	372
TOTAL	1.609	1.512	3.059	2.451	1.460	10.090

Source: ONSAI - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

## With the PNRR, the importance of planning increases, especially in central and southern Italy

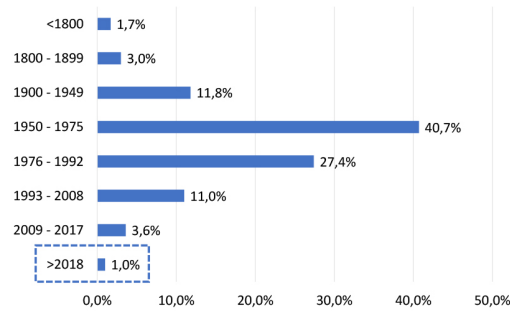
**2020/2024**  
**NUMBERS: 51 %**  
**AMOUNTS: 55%**  
**Population: 43%**

## PNRR resources for schools

### School buildings in Italy: distribution by region and construction period

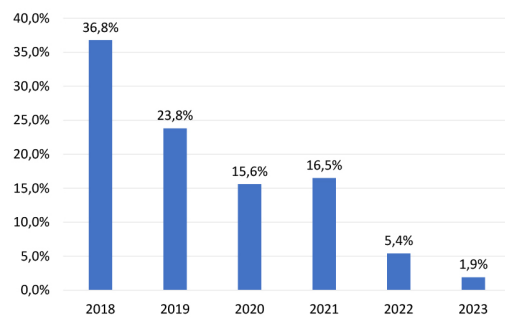


Only 1% of school buildings (324) were built after 2018  
At an increasingly slower pace



57% of school buildings (18,880) will be obsolete in 2025 when they will be more than 50 years old

In Italy, it is estimated that there are over 33,000 school buildings, 57% of which will be over 50 years old by 2025

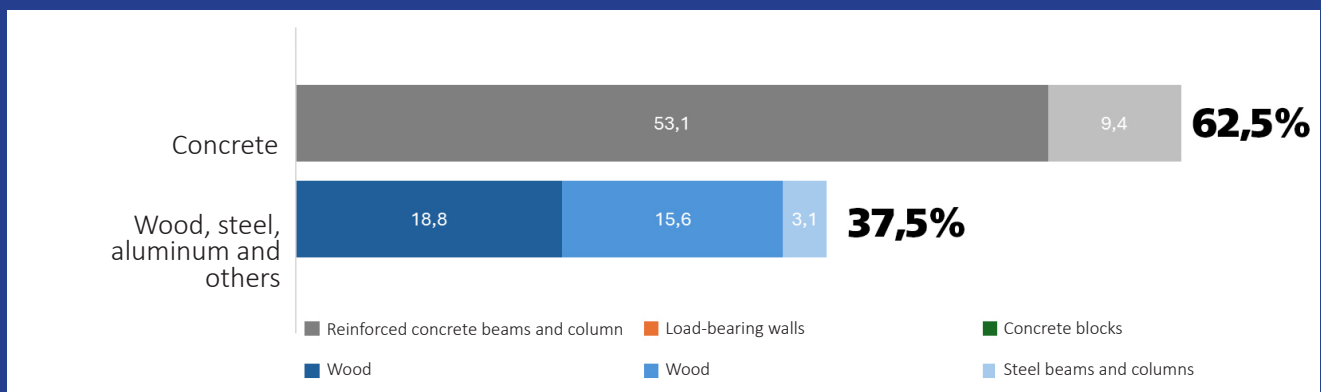


However, driven by the PNRR, a significant increase is expected over the five-year period from 2024 to 2028

Source: CRESME elaboration from various sources

### The structure of schools

Sample of 76 school buildings constructed between 2021 and 2023 – Load bearing structure  
(Expressed as a percentage of the total volume constructed)



Source: CRESME

### 3. SCHOOLS AND NEW INVESTMENTS FOR INNOVATION AND REFURBISHMENT

By way of further background, some of the main aspects relating to the size and characteristics of Italy’s school building stock are outlined below.

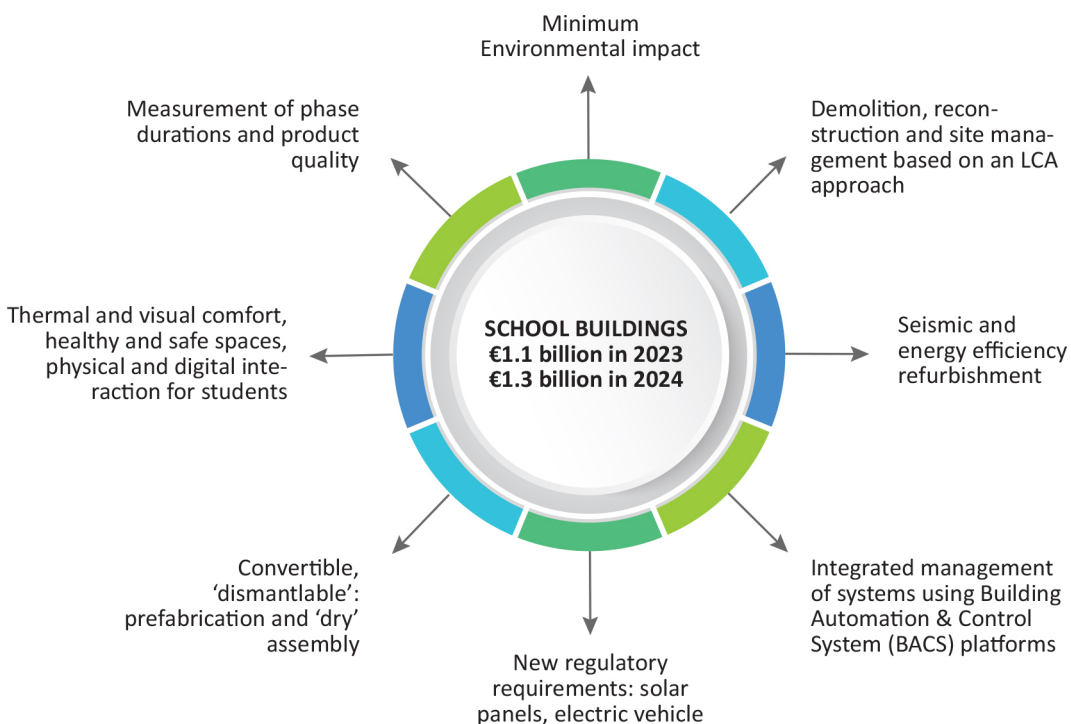
It is estimated that Italy has more than 33,000 school buildings, 57% of which were over 50 years old in 2025. On the basis of surveys carried out in 2023 by CRESME for ENEA on school buildings built between 2021 and 2023, 62.5% of the buildings in the sample have a reinforced-concrete structural frame and 37.5% have structures in other materials (wood, steel, aluminium, etc.).

In the 2000s, design has increasingly been called upon to address the new challenges of environmental and energy transition and process optimisation. Minimising the environmental impact generated by construction, renovation and maintenance works; maximising the building’s energy efficiency; and ensuring the presence of integrated green areas have become mandatory requirements for public buildings, as established by the European EPBD directives and by the new CAM environmental criteria.

Likewise, planning school buildings that can be easily adapted, both to create spaces suitable for multiple functions outside school hours, as envisaged by the guidelines for future schools financed by the PNRR, and in view of demographic change, which will progressively reduce the number of students, is another example of the new objectives of school building design. All these aspects relate to project quality.

#### New design themes - Qualitative elements

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## 4. SURVEY ON THE VALUE OF DESIGN QUALITY IN PUBLIC SCHOOLS. METHODOLOGY FOLLOWED

This section presents the results of the survey on the timing and quality of public school design commissioned by the National Council of Architects, Planners, Landscape Architects and Conservationists from Cresme Europa Servizi.

The survey is based on data collected by the Cresme Europa Servizi information systems on public works procurement, supplemented by qualitative data on tenders gathered through direct contact with the stakeholders involved. Direct contacts were essential to complete the information framework needed to meet the survey objectives.

The survey has nationwide territorial coverage; the economic size of the interventions includes works above and below the European threshold of EUR 5.5 million. The reference period for the tenders analysed is the decade 2015–2024.

The analytical process was as follows: starting from 9,929 tenders relating to public schools contained in the Cresme Europa database, 300 tenders were selected, of which 100 were design competitions with subsequent stages awarded to the winner, 100 were other design tenders, and 100 were integrated procurements.

### Project: Survey on the value of design quality. The case of public schools – Reference universe of tenders 2015–2024

REFERENCE UNIVERSE – TENDERS 2015–2024	REFERENCE UNIVERSE – TENDERS 2015–2024	REFERENCE UNIVERSE – TENDERS 2015–2024
	Number	Importo (Mln €)
Design competitions	411	36
Other design tenders	8.140	1.082
Integrated procurement	1.378	4.362
<b>TOTAL</b>	<b>9.929</b>	<b>5.480</b>

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data

Over the period 2015–2024, 9,929 school-related tenders were identified, of which 411 related to design competitions, 1,378 to integrated procurement, and 8,140 to other design tenders.

From this universe, 300 cases were selected, 100 for each typological segment: competition, integrated procurement, and other design tenders (SAI – architecture and engineering services). The analysis of the 300 cases then led to the selection of 103 projects with a rich information base: 41 design competitions, 30 integrated procurements, and 32 other design tenders.

The analysis of the projects made it possible to monitor in detail 10% of design competitions, 1% of tenders relating to integrated procurement, and 0.5% of the other design tenders.

## Reference framework for the survey

	Tenders 2015–2024	Tenders 2015–2024	Cases analysed	Cases monitored	Cases monitored	% monitorati/ analizzati	% monitored / total tenders
<b>TOTAL</b>	<b>9.929</b>	<b>9.929</b>	<b>300</b>	<b>103</b>	<b>103</b>	<b>34%</b>	<b>1,0%</b>
Design competitions	411	411	100	41	41	41%	10,0%
SAI (Other design tenders)	8.140	8.140	100	32	32	32%	0,5%
Integrated procurement	1.378	1.378	100	30	30	30%	1,0%
Concorsi Project individuato con concorso di progettazione e lavori affidati con appalto di sola esecuzione	Concorsi Project individuato con concorso di progettazione e lavori affidati con appalto di sola esecuzione	SAI (Other design tenders) Project affidato a professionisti interni/esterni alla PA e lavori affidati con appalto di sola esecuzione	SAI (Other design tenders) Project affidato a professionisti interni/esterni alla PA e lavori affidati con appalto di sola esecuzione	SAI (Other design tenders) Project affidato a professionisti interni/esterni alla PA e lavori affidati con appalto di sola esecuzione	Integrated procurement PFTE-PD affidato a professionisti interni/esterni alla PA e lavori affidati con appalto integrato (PD e/o PE e lavori)	Integrated procurement PFTE-PD affidato a professionisti interni/esterni alla PA e lavori affidati con appalto integrato (PD e/o PE e lavori)	Integrated procurement PFTE-PD affidato a professionisti interni/esterni alla PA e lavori affidati con appalto integrato (PD e/o PE e lavori)

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

The 103 cases analysed in detail represented an aggregate value of approximately EUR 1.2 billion, corresponding to an average of EUR 11.3 million per school. The average cost of schools delivered through design competitions was EUR 13.6 million, compared with EUR 10.1 million for integrated procurement and EUR 9.5 million for the other design tenders. According to this analysis, design competitions are used for interventions whose value is more than 30% higher than those awarded through other tendering procedures.

## Reference framework for the survey – Cases monitored – Number and project cost as of 31 December 2024 – Amounts in euro

	Number	Total amount in cost framework	Average amount in cost framework
Design competitions	41	558.786.146	13.628.930
SAI (Other design tenders)	32	303.053.137	9.470.411
Integrated procurement	30	302.786.624	10.092.887
<b>TOTAL</b>	<b>103</b>	<b>1.164.625.907</b>	<b>11.307.048</b>

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.



**The value of schools in competitions is 30% higher than that of other types of procedure**

Although the number of cases analysed is limited, account was taken of the territorial distribution of interventions in an effort to obtain a representative picture of the country's territorial realities. All Italian regions are represented.

### Cases monitored by geographical area – Number and project cost as of 31 December 2024 – Amounts in euro

	Total cases	Total cases	Concorsi	Concorsi	SAI	SAI	Integrated procurement	Integrated procurement
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
North-West	24	323.310.499	5	127.000.953	14	139.640.361	5	56.669.185
Nord est	35	360.132.654	16	201.393.052	6	39.196.645	13	119.542.957
Centre	22	242.342.157	6	61.346.183	8	88.797.405	8	92.198.569
South e Islands	22	238.840.597	14	169.045.959	4	35.418.726	4	34.375.913
TOTAL	103	1.164.625.907	41	558.786.146	32	303.053.137	30	302.786.624

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data

The composition of the sample also took account of different school types and different intervention types: demolition and reconstruction, new build and refurbishment.

	Total cases	Total cases	Concorsi	Concorsi	SAI	SAI	Integrated procurement	Integrated procurement
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
School campus (a)	22	314.626.048	11	182.183.117	9	97.832.097	2	34.610.834
Nursery and preschool	7	40.181.266	-	-	2	7.413.204	5	32.768.062
Primary	18	155.430.260	3	11.216.760	8	80.387.578	7	63.825.923
Lower secondary	30	323.146.913	14	175.736.620	8	66.031.046	8	81.379.248
Upper secondary	26	331.241.420	13	189.649.649	5	51.389.212	8	90.202.559
TOTAL	103	1.164.625.907	41	558.786.146	32	303.053.137	30	302.786.624

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

### Cases monitored by intervention type – Number and project cost as of 31 December 2024 – Amounts in euro

	Total cases	Total cases	Concorsi	Concorsi	SAI	SAI	Integrated procurement	Integrated procurement
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Demolition and reconstruction	53	620.884.964	24	359.761.431	10	72.631.969	19	188.491.564
New build	45	491.252.394	12	146.536.166	22	230.421.168	11	114.295.061
Refurbishment	5	52.488.549	5	52.488.549	-	-	-	-
TOTAL	103	1.164.625.907	41	558.786.146	32	303.053.137	30	302.786.624

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

The stage of completion of projects as of 31 December 2024 was also considered. It emerged that 70 schools (68% of the total cases examined), with an aggregate cost of EUR 833 million (72%), were under construction; 29 schools (28%), with an aggregate cost of EUR 273 million (23%), had been completed; and for the remaining 4 schools (4%), with an aggregate cost of EUR 58 million (5%), the executive design had been approved and works were scheduled to start in the first months of 2025.

The distribution of cases also took PNRR programmes into account, and the cases are representative of all measures that include school building interventions.

### Cases monitored by implementation status as of 31 December 2024 – Number and project cost

	Total cases		Concorsi		SAI		Integrated procurement	
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
Start-up phase	4	58.051.136	2	27.000.449	2	31.050.687	-	-
In progress	70	833.387.985	32	471.402.995	15	144.621.282	23	217.363.708
Completed (a)	29	273.186.786	7	60.382.702	15	127.381.168	7	85.422.917
<b>TOTAL</b>	<b>103</b>	<b>1.164.625.907</b>	<b>41</b>	<b>558.786.146</b>	<b>32</b>	<b>303.053.137</b>	<b>30</b>	<b>302.786.624</b>

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

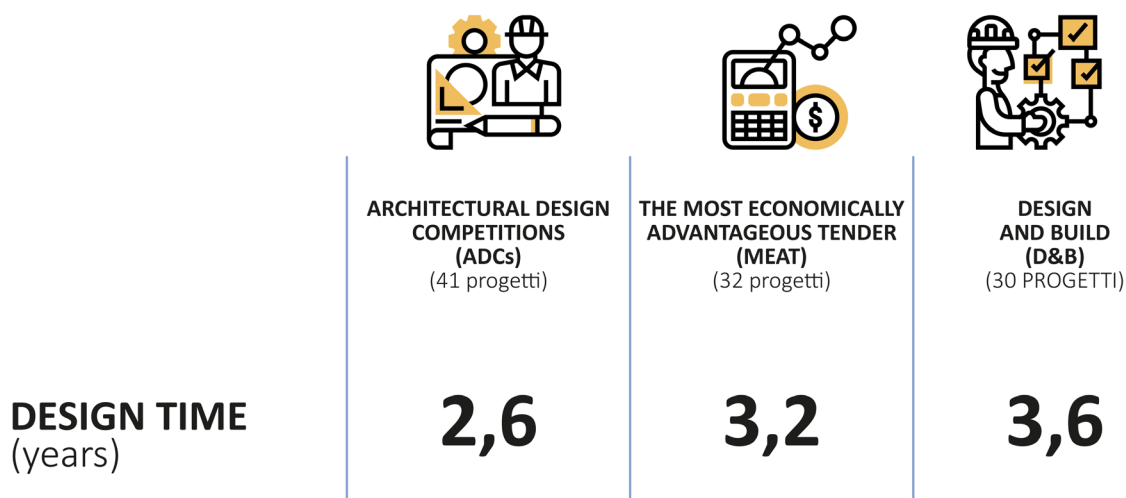
## 5. THE RESULTS OF THE SURVEY THE MAIN FINDINGS OF THE ANALYSIS ARE SET OUT BELOW

### Average design times

The analysis of 103 cases showed, as a first result, that average design times are 2.6 years for design competitions, 3.2 years for SAI procedures, and 3.6 years for integrated procurement.

Design times for competitions are 28% shorter than those for integrated procurement and 19% shorter than those for SAI tenders.

It should also be noted that the school projects delivered through competitions are 30% larger, both in cost and in scale, than those delivered through the other two procedures.



Source: CRESME Europa Servizi processing on ONSAI data - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES



**Design times in competitions are therefore shorter than in both SAI procedures and integrated procurement**

### Construction execution times




For all three procedure types examined, actual construction execution times diverge from the times provided for in the tender documents, increasing from 1.8 to 2.3 years for competitions, from 1.5 to 2.5 years for SAI procedures, and from 1.9 to 2.1 years for integrated procurement.

The evidence shows that in all cases more than two years are needed to complete the works and that SAI tenders display the greatest variations (+70%).

Integrated procurement performs best in complying with the planned times, requiring 2.1 years versus 2.3 years for competitions. Here too, however, it should be borne in mind that competitions concern larger schools than those delivered through integrated procurement (+30%).



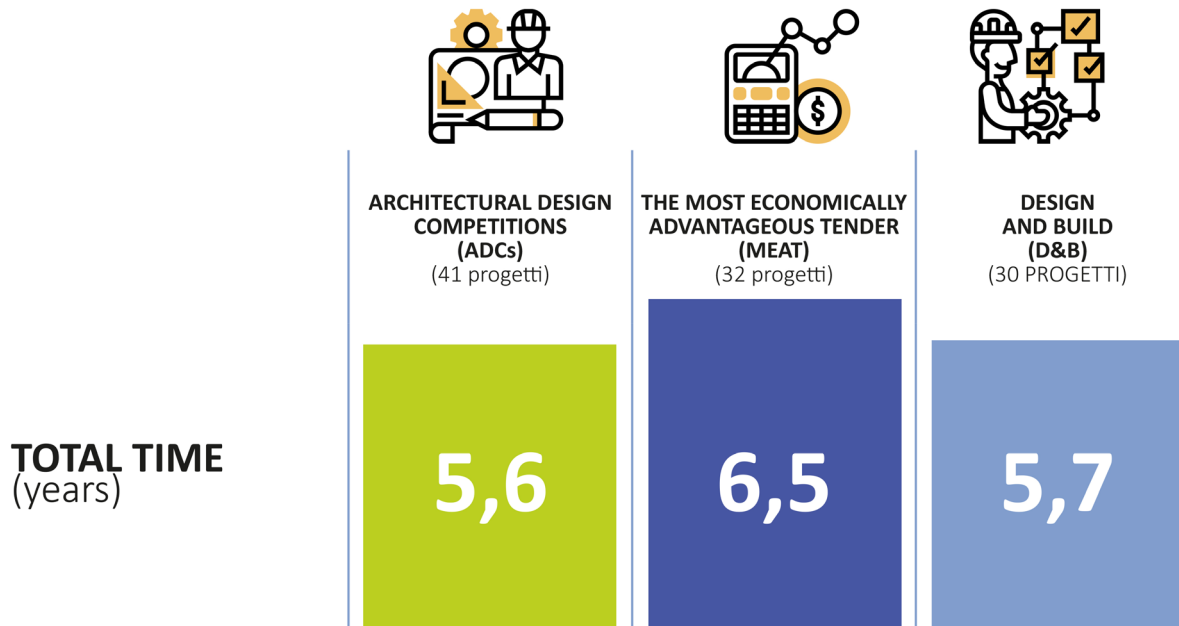
## Execution times for integrated procurement are the shortest, followed by competitions and then SAI. Execution times are always longer than originally planned

	 <b>ARCHITECTURAL DESIGN COMPETITIONS (ADCs)</b> (41 progetti)	 <b>THE MOST ECONOMICALLY ADVANTAGEOUS TENDER (MEAT)</b> (32 progetti)	 <b>DESIGN AND BUILD (D&amp;B)</b> (30 PROGETTI)
<b>EXPECTED TIME</b> (years)	<b>1,8</b>	<b>1,5</b>	<b>1,9</b>
<b>REAL TIME</b> (years)	<b>2,3</b>	<b>2,5</b>	<b>2,1</b>
<b>INCREASING TIME PERCENTAGE</b>	<b>28%</b>	<b>70%</b>	<b>11%</b>

Source: CRESME Europa Servizi processing on ONSAI data - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

## Total project delivery times

For all three procedure types under examination, total delivery times for a school are not short: 5.6 years for competitions, 6.5 years for SAI, and 5.7 years for integrated procurement.



Source: CRESME Europa Servizi processing on ONSAI data - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

## “Other times”

In assessing overall timeframes, in addition to design time and construction time, the analysis includes what are termed “other times”, relating to the time required to award construction works (from publication of the tender to award), the time required to sign the contract, and other ancillary activities. In integrated procurement these times are included within design time, whereas for competitions they amount to 6 months and for SAI procedures to 8 months.

	Competition (41 progetti) Project individuato con concorso di progettazione e lavori affidati con appalto di sola esecuzione	SAI (32 progetti) Project affidato a professionisti interni/esterni alla PA e lavori affidati con appalto di sola esecuzione	Integrated procurement (30 progetti) PFTE-PD affidato a professionisti interni/esterni alla PA e lavori affidati con appalto integrato (PD e/o PE e lavori)
Total time - A	5,6	6,5	5,7
Design time - B	2,6	3,2	3,6
Actual construction time - C	2,3	2,5	2,1
Other time A-(B+C) (1)	0,6	0,8	0,0

Source: CRESME Europa Servizi processing on ONSAI data - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

### Initial and final costs

For all three procedure types under examination, both initial works costs and final costs were analysed. Cost variations occurred under all procedures:




+18.9% for competitions

+19.7% for MEAT

+15.8% for integrated procurement.



**Overall, costs vary in relation to the original project by between 16% and 20%**

	 <b>ARCHITECTURAL DESIGN COMPETITIONS (ADCs)</b> (41 progetti)	 <b>THE MOST ECONOMICALLY ADVANTAGEOUS TENDER (MEAT)</b> (32 progetti)	 <b>DESIGN AND BUILD (D&amp;B)</b> (30 PROGETTI)
<b>Initial budget</b> (average value)	<b>11.462.785</b>	<b>7.913.651</b>	<b>8.712.186</b>
<b>Final economic overview</b> (average value)	<b>13.628.930</b>	<b>9.470.411</b>	<b>10.092.887</b>
<b>Change in cost</b>	<b>2.166.145</b>	<b>1.556.760</b>	<b>1.380.701</b>
<b>VARIATION %</b>	<b>18,9%</b>	<b>19,7%</b>	<b>15,8%</b>

Source: CRESME Europa Servizi processing on ONSAI data - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

### Initial and final costs of technical services

For all three procedure types under examination, both initial and final technical-service costs were analysed. On average, technical expenses account for between 10% and 11% of the final cost of the work.

Compared with the budgeted amounts at project start, an average increase of 5.7% is recorded, although this is the result of differing behaviours across the procurement types. Within the sample analysed, technical-service cost variations were as follows:

**+11.7% for competitions**

**+4.5% for MEAT**

**-5.8% for integrated procurement**

The following cost items are included:

technical expenses for external design appointments

project checking and validation

construction supervision

safety coordination

testing

surveys

inspections

investigations

technical verifications

support activities for the person responsible for the procedure

incentives for technical functions

social-security contributions (4%)

VAT (22%).

	<b>Total (15 progetti)</b>	<b>Competition (6 progetti)</b>	<b>SAI (4 progetti)</b>	<b>Integrated procurement (5 progetti)</b>
Initial technical-service cost in cost framework (EUR)	17.093.561	8.708.915	4.338.883	4.045.763
Technical-expense share of initial cost framework %	11,6%	11,5%	11,7%	11,9%
Final technical-service cost in cost framework (EUR)	18.070.282	9.725.377	4.532.579	3.812.326
Technical-expense share of final cost framework %	10,8%	11,1%	10,5%	10,2%
Variazione assoluta (euro)	976.721	1.016.462	193.696	-233.437
Change %	5,7%	11,7%	4,5%	-5,8%

Source: CRESME Europa Servizi processing on ONSAI data - National Observatory of Architecture and Engineering Services CNAPPC-CRESME ES

## Analysis: design costs – cases examined

Record no.	Category	Municipality	Project	Project status as of 31/12/2024	Initial cost framework amount	Cost QE finale	Change % QE finale/iniziale	Initial technical-service costs in cost framework (1)	Share of initial cost framework %	Costi Servizi tecnici QE finale (1)	Share of final cost framework %	Technical-service cost change % final/initial
17	1. Competitions	Pavullo nel Frignano (MO)	New scuola "Raimondo Montecuccoli" at the new school campus adjacent to the municipal stadium G. Minelli	Works in progress	11.200.000	14.070.000	25,6	1.257.344	11,2	1.554.179	11,0	23,6
26	1. Competitions	Piobbico (PU)	New scuola "Scipione Lapi" in Via d'Urbania 25	Works in progress	3.800.000	4.850.470	27,6	435.000	11,4	551.131	11,4	26,7
28	1. Competitions	Castel Volturno (CE)	New cittadella scolastica Circoli Didattici denominati "Istituto Comprensivo Statale Garibaldi" e "Istituto Comprensivo Statale Castel Volturno Centre"	Works in progress	29.663.823	34.129.205	15,1	3.064.033	10,3	3.263.075	9,6	6,5
29	1. Competitions	Avellino (AV)	New scuola premises of the Upper Secondary Institute De Luca Via Tuoro Cappuccini civ. 65	Works in progress	19.622.812	22.416.245	14,2	2.217.983	11,3	2.478.973	11,1	11,8
37	1. Competitions	Santa Sofia d'Epiro (CS)	New scuola "San Demetrio Corone" in the locality of Mustica	Works nearing completion	720.000	720.000	0,0	78.904	11,0	95.219	13,2	20,7
38	1. Competitions	Uta (CA)	New polo scolastico tra le vie Stazione e Is Arridelis	Works in progress	11.000.000	11.288.400	2,6	1.655.651	15,1	1.782.799	15,8	7,7
10	2. SAI	Boffalora Sopra Ticino (MI)	New polo scolastico in Via Roma	Works about to start	8.780.000	11.322.000	29,0	1.162.141	13,2	1.243.366	11,0	7,0
12	2. SAI	Borgosatollo (BS)	New scuola primaria Don Milani	Works completed	6.000.000	6.998.891	16,6	472.200	7,9	641.452	9,2	35,8
21	2. SAI	Sesto Fiorentino (FI)	New liceo Scientifico A.M. Enriques Agnoletti	Works completed	15.348.848	17.722.000	15,5	1.648.312	10,7	1.626.162	9,2	-1,3
29	2. SAI	Pratola Peligna (AQ)	New polo scolastico in S.P 10 Via per Prezza	Works completed	7.000.000	7.000.000	0,0	1.056.231	15,1	1.021.600	14,6	-3,3
5	3. Integrated procurement	Erbusco (BS)	New scuola per l'Istituto Comprensivo Monte Orfano in Via Donatori di Sangue	Works in progress	6.997.200	7.257.632	3,7	723.555	10,3	765.388	10,5	5,8
8	3. Integrated procurement	Spinea (VE)	New scuola "Giacomo Ungaretti" in Via Pascoli	Works in progress	7.050.000	9.248.951	31,2	981.867	13,9	916.383	9,9	-6,7
9	3. Integrated procurement	San Giorgio delle Pertiche (PD)	New scuola G. Pascoli di Arsego	Works in progress	8.500.000	8.500.000	0,0	1.053.791	12,4	1.047.435	12,3	-0,6
18	3. Integrated procurement	Bologna (BO)	New nido Roselle in Via Barbacci	Works in progress	4.152.000	4.558.550	9,8	546.832	13,2	521.824	11,4	-4,6
27	3. Integrated procurement	Avezzano (AQ)	New scuola in Via Puglie	Works completed	7.200.000	7.850.000	9,0	739.718	10,3	561.296	7,2	-24,1
TOTAL (15 casi)	TOTAL (15 casi)	TOTAL (15 casi)	TOTAL (15 casi)	TOTAL (15 casi)	147.034.682	167.932.344	14,2	17.093.561	11,6	18.070.282	10,8	5,7

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

### Costs per square metre by design procurement type

This chapter includes, in the final report of the survey on the quality of public school design carried out by CRESME Europa Servizi for CNAPPC, the results of the additional analysis requested on the unit cost deviations (EUR/sq m) of procured works, relating to the costs of works delivered through design competition and those delivered through the other procedures (integrated procurement and SAI).

As described in the supplementary work programme, the analysis is based on data systematically collected by Cresme Europa Servizi as part of the survey on the quality of public school design, and in particular on the 103 schools examined in detail.

All the documentation collected was analysed in order to identify gross floor area (sq m) to be related to the costs in the economic framework (initial and final) of the schools, with the aim of identifying a correctly comparable EUR/sq m cost for at least 20 schools, including school campuses, nurseries and preschools, primary schools, lower secondary schools and upper secondary schools.

### Cases monitored by school type – Number and project cost as of 31 December 2024 – Amounts in euro

	Total cases		ADC		MEAT		Integrated procurement	
	Number	Cost	Number	Cost	Number	Cost	Number	Cost
School campus (a)	22	314.626.048	11	182.183.117	9	97.832.097	2	34.610.834
Nursery and preschool	7	40.181.266	-	-	2	7.413.204	5	32.768.062
Primary	18	155.430.260	3	11.216.760	8	80.387.578	7	63.825.923
Lower secondary	30	323.146.913	14	175.736.620	8	66.031.046	8	81.379.248
Upper secondary	26	331.241.420	13	189.649.649	5	51.389.212	8	90.202.559
<b>TOTAL</b>	<b>103</b>	<b>1.164.625.907</b>	<b>41</b>	<b>558.786.146</b>	<b>32</b>	<b>303.053.137</b>	<b>30</b>	<b>302.786.624</b>

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

In the end, 22 of the 103 schools examined proved to have sufficiently coherent and comparable data to enable comparison of cost-per-square-metre figures.

The analysis measured both the initial and the final cost per square metre by procurement type in order to compare not only the cost per square metre itself but also the change in that cost. Final cost is represented both by the cost of completed works (8 schools) and by the evolution of cost, updated from the initial cost to the cost documented as of 31 December 2025 for works still in progress (14 schools).

Of the 22 schools for which costs and square metres were reconstructed, 7 were designed through competitions and 15 through integrated procurement or SAI. For 9 of the 22 schools, design started before 2021; for 13 it started in the three-year period 2021–2023. Fourteen of the 22 schools are PNRR projects.

The average value of the 22 schools analysed is EUR 9.2 million, with an average design size of 4,389 sq m. Schools designed through competitions have an average size of 5,990 sq m and an average cost of EUR 13.3 million, whereas those designed through the other procedures have an average size of 3,642 sq m (30.2% less surface area) and an average cost of EUR 9.4 million (-38.5%). Competitions therefore deliver larger schools.

## Analysis: unit costs EUR/sq m – cases examined

	Initial cost framework amount	Final cost framework amount*	Sq m - initial framework	Sq m - final framework*	EUR/sq m - initial framework	EUR/sq m - final*	Change EUR/sq m – final*/initial
TOTAL Average of 22 cases	9.152.799	11.285.461	4.389	4.499	2.158	2.609	20,9
Competition Average 7 cases	13.315.234	15.302.410	5.990	6.278	2.265	2.579	13,9
Other procedure Average 15 cases	7.210.330	9.410.885	3.642	3.668	2.108	2.623	24,5
Start of design before 2021 Average 9 cases	6.659.886	9.470.119	3.590	3.837	2.011	2.555	27,0
Start of design 2021-2023 Average 13 cases	10.878.662	12.542.236	4.942	4.957	2.259	2.647	17,2

Source: CRESME processing based on ONSAI / CNAPPC-CRESME ES data.

At the initial design stage, the average cost shown in the economic framework across the 22 cases is EUR 2,158 per sq m. The cost per sq m for works designed through competition is EUR 2,265/sq m, whereas that delivered through the “other procedures” is EUR 2,108/sq m.

On that basis alone, schools delivered through competition would appear to cost 12.6% more than those designed through the other procedures.

However, that is not the conclusion that emerges once cost evolution is analysed.

The reconstruction of final costs for completed works, or of the change in costs during implementation for works still in progress, shows a much more contained variation for works delivered through competition.

According to the sample analysis, the average increase in cost per sq m across the 22 schools analysed is 20.9%; for competitions it is 13.9%; and for the other procedures it is 24.5%.

Accordingly, the final cost per sq m of a school designed through competition is EUR 2,579/sq m, whereas for the other procedures it is EUR 2,623/sq m (+1.7%).

The detailed analysis of the 22 works shows the variability of costs, driven by both time-related and design-related factors. The least expensive school in the sample is a 2017 integrated procurement project completed in 2023, with an initial cost of EUR 1,309/sq m and a final cost of EUR 1,876/sq m (+43.3%). The most expensive school is a 2020 SAI project, which had an initial cost of EUR 2,025/sq m and records a cost of EUR 4,275/sq m in 2026.



