PANORAMAS / DIORAMAS / EARLY IMMERSIVE ENVIRONMENTS
These date back to the 18th c. and include new 'architectures of seeing' such as Robert Barker's Panorama Rotunda at Leicester Square that opened in May 1793

'TIME MACHINE'
H.G. Wells & Robert Paul's patent application for a 'Time Machine 'A largely imaginary moment but one that combines, however hypothetically, the use of multiple projections and simulated movement (1895) — an early incantation of 'virtual reality'?

'CINEMA OF ATTRACTIONS'
Early cinema was a live and unpredictable event — combining performance, projection and exhibition — includes events at the Paris Biorama; Lumière's touring programmes or 'Vues'; early Twentieth Century institutions of mass culture: Café-concerts, music halls, vaudeville, fairground theatres and temporary sites of exhibition. An important moment in the history of what Jeffrey Shaw calls, 'spectator-spectacle relations'.

EARLY OPTICAL DEVICES / MAGIC LANTERNS / SLIDE SHOWS / PHANTASMAGORIA
Extremely popular forms of pre-cinema that combine illusion with analysis. What Werner Nekes calls 'Media Magica'

PRE-SOUND, 'CINE-LECTURES'
Tradition of the 'barker' who would narrate over the top of silent films — often control of the 'narrative' belonged to the exhibitor rather than the filmmaker or distributor.

HALES TOURS PRE — 1910
Part of the trend for travel films in the early Twentieth Century, 'Scenes from around the World' were projected onto the 'window' of a mock-up railway carriage that jolted and bumped as 'passengers' travelled the world without leaving Manchester

PARIS EXPOSITION 1900
National exhibitions have showcased many of the technological innovations associated with expanded cinema. Here multiple projectors are used panoramically to simulate hot-air balloon flights

DADA PERFORMANCE
Famously, René Clair produced his film Entr'acte (Interval) (1924) to be screened during the break between the two acts of Picabia's Ballet Relâche. The film is in many ways site-specific and draws on early cinema 'programming' in order to disrupt the 'reality' of the live event.

SURREALISM
In Las Hurdes (Land Without Bread) made in 1932 when sound recording was available to filmmakers, Buñuel delivered a live voiceover at early screenings in order to create a disjunction not only between sound and image but between the filmic record and the way in which it is consumed.

MARCEL DUCHAMP'S PRECISION OPTICS (1920)
Along with his Anaemic Cinema and Man Ray's Rayographs (photographic images made without use of a camera) Duchamp's kinetic sculptures anticipate what Ken Jacobs will call 'para-cinema' — a form of cinema made without use of the traditional media of cinema.

BAUHAUS
Theo Van Doesburg's 'dynamic light architecture' creates an agitated space of moving screens in which 'the spectator space will become part of the film space. [And] the separation of the 'projection surface' is abolished.' Moholy-Nagy's Polykino is also an important piece of light-sculpture that, as with later expanded works, examines the primary materials of cinema: light, movement and time

ABEL GANCE'S NAPOLEON (1927)
The film's three-screen climax suggests a crossover between avant-garde expanded cinema and developments in cinema technologies more broadly.

LETTRISTES AND SITUATIONIST CINEMA
Maurice Lemaître and Isadore Isou created their own brand of cinema that emphasised the unpredictable and antagonistic in film events using disassembled narratives, films without images and live confrontation.

ACTION PAINTING / ABSTRACT EXPRESSIONISM
Malcolm Le Grice and other experimental filmmakers that employ visceral devices associated with expanded cinema take their cue as much from post-war concerns in painting (and music) as they do from cinema

GERMAN THEATRE
Along with Brecht's alienation effects and Epic Theatre, Walter Gropius & Erwin Piscator's notion of 'Total Theatre' — which combines film projections with live theatre anticipate some of expanded cinema's focus on mediated enactment.

COMPUTER ARTS
In the 1940s John and James Whitney were early adopters of computers as a means of making film-forms; the Californian brothers claim to inherit the 'machine as art' from Duchamp and Mondrian.

EXPANDED MACHINES
After experimenting with shadow and light in work such as, Point Source (1973), Tony Hill went on to create specially mounted cameras to create films in which 'the camera is fixed relative to its moving subject, resulting in a reversal of the usual relationship between fixed and moving elements in a scene' (Nicky Hamlyn). See also: Robert Breer's Mutoscopes (1964); Steve Farrer, The Machine (1988); Tim MacMillan's 'hoop camera' UK (1982)

STREET ACTIONS / PROJECTIONS
Practitioners such as Wolf Vostell, Werner Nekes, Robert Whitman and Ken Dewey all took the projected image to the street as a means of activating environments beyond the cinema.

MOSCOW WORLD'S FAIR (1959)
Site for the unveiling of Charles and Ray Eames' iconic multi-screen extravaganza: Glimpses of the USA

BRUSSELS WORLD'S FAIR (1958)
Expo that witnessed combining of events such as the Philips sponsored Corbusier Pavilion, Poem Electronique the Czechoslovak Laterna Magica Kenneth Anger's Inauguration of the Pleasure Dome 3-Screen version, Abel Gance & Nelly Kaplan showing an updated version of Napoleon and Magirama (1956)

GUTAI GROUP (JAPAN)
Influential actionists from the 1950s.

3D

BETTER BOOKS LONDON
The basement of Bob Cobbing's Charing Cross Rd. bookshop hosted a number of early expanded cinema events such as the Destruction in Art Symposium (1966) and showed work by artists such as Jeff Keen, Kenneth Anger, Yoko Ono and Jeffrey Shaw.

STAN VANDERBEEK'S MOVIE DROME 1966
In a dome-shaped converted grain silo in upstate New York 'simultaneous images of all sorts would be projected on the entire dome-screen... the audience lies down at the outer edge of the dome with their feet towards the centre, thus almost the complete field of view is the dome-screen. Thousands of images would be projected on this screen... this image-flow [of] visual material is to be presented and each individual makes his own conclusions... or realisations.' (Vanderbeek, 'Cultural Intercom')

KEN JACOBS
Creator of important 'para-cinema' works such as Nervous System (1975) and Apparition Theatre (1974)

WIDESCREEN

TECHNICOLOR

JOHN CAGE
An important influence on artists making expanded cinema such as William Raban and Paul Sharits

E.A.T (EXPERIMENTS IN ART AND TECHNOLOGY)
Crossing the boundaries of engineering, art, cinema and performance, practitioners such as Robert Rauschenberg, Robert Whitman and Billy Klüver joined forces to produce spectacular events such as Nine Evenings of Theatre and Engineering New York (1966)

DOUBLE-SCREEN AND MULTI-PROJECTION
Arguably a cinematic language in itself — double-screen films such as Warhol's Chelsea Girls (1966) and Outer and Inner Space (1965) as well as Malcolm Le Grice's Castle Two (1968) pose the audience with the dilemma of simultaneous readings. Multi-projection works such as Paul Sharits' Razor Blades (1965–68), William Raban's Wave Formations (1977) and Guy Sherwin's Sound Cuts (2008) employ new forms of filmic rhythm in order to expand the form and range of cinematic experience.

EXPERIMENTAL DANCE / KINESTHETIC THEATRE
Associated with Black Mountain College and practitioners such as Merce Cunningham, Yvonne Rainer and the Judson Church Dance Theatre, the sense of the kinetic and the rhythms of the body influenced makers of expanded cinema such as Carolee Schneemann.

NEW YORK WORLD'S FAIR (1964–65)
The infamous IBM Pavilion was created here to produce an 'immersive nedia environment' where spectators became part of the machine and were "led through American history, to the moon and the Milky Way with 135 screens that rose, slid and formed tunnels."

LONDON FILMMAKERS' COOP
Hub for many influential experimental artists and filmmakers from the mid 1960s to the 1990s many of whom employed techniques associated with expanded cinema.

HAPPENINGS
Allen Kaprow / Robert Whitman / Ken Dewey

VIENNESE ACTIONISTS
Many moments of crossover between live performance and the filmic (Kurt Kren / Otto Muehl) that influenced a generation of expanded cinema artists including Valie EXPORT, Peter Weibel and later Paul McCarthy and Mike Kelley.

FILMAKTION
A loose group of filmmaker's associated with the LFMC producing iconic pieces of expanded cinema such as, Horror Film 1 (1970) by Malcolm Le Grice, 2'45'' (1973) by William Raban, Aperture Sweep (1973) by Gill Eatherley and Reel Time (1973) by Annabel Nicolson

FILMAKTION WALKER ART GALLERY, LIVERPOOL 1973
Following earlier events at Gallery House in London (one of the few galleries supportive of film and video artists) this was an important event in the history of UK Expanded Cinema focusing on the enlivened interest in the 'real time/space' of film projection.

FLUXUS
Neo-dada movement that has among its membership many of the artists and filmmakers associated with expanded cinema. Including Nam June Paik, George Maciunas and Jonas Mekas and Paul Sharits. Particularly influential in its movement away from objecthood toward the ephemera of performance and gesture.

PERFORMANCE ART
With its emphasis on the body and a 'politics of experience' expanded cinema is closely linked to the traditions of performance art — but its use of film and other media suggests an alternative relationship to mediums of technological reproduction.

CLAUS OLDENBURG'S MOVIE-HOUSE (1965)
Audience and actors change places as Oldenburg's 'happening' turns the movie theatre inside out...'

FLICKER FILMS
Films by Tony Conrad (The Flicker, 1966), Peter Kubelka (Arnulf Rainer, 1960) and Paul Sharits (among others) expand the frequencies of filmic perception through violent alternating rhythms.

KNOKKE-LE ZOUTE
Belgian Festival of experimental film that ran irregularly between 1949 and 1974 and a testing ground for many forms of expanded cinema. The 1958 festival moved to Brussels to coincide with the World's Fair

UNDERGROUND USA
'Participatory spectacles held at countercultural venues and underground film spaces provided an atmosphere of collective improvisation and sensorial overload. USCO — early 'media-art' collective; Ben Van Meter uses live film projections as a way of promoting and constructing sub-cultural identities in San Francisco in the mid-1960s; Peter Kubelka designs the 'Invisible Cinema' at Anthology Film Archives in 1970

CAROLEE SCHNEEMANN
Combining live action, multi-media collage and film to create intense film performances; Schneemann also employed trigger devices in the audience to create pseudo-interactive and participatory events. Crucial works include Snows (1967), Ghost Rev (1965), Illinois Central (1968)

LIGHT FORMS AND PROJECTION
Films such as Anthony McCall's Line Describing a Cone (1973) and Lis Rhodes' Light Music (1974) examine the space between the projector and the screen and the materiality of projected light. Other experiments with projection and light forms as 'visionary experience' include Jordan Belson's Vortex Concerts at Morrison Planetarium in San Francisco; John Cage and Lejaren Hiller's HPSCHD event (1969); or the liquid light shows of Mark Boyle (and Soft Machine) at the UFO Club in the late 60s

X-SCREEN FESTIVAL (COLOGNE 1968)
An important moment in the history of expanded cinema organised in part by Wilhelm and Birgit Hein.

EXPLODING PLASTIC INEVITABLE 1966
Andy Warhol and the Velvet Underground join forces to create Pop Expanded Cinema combining live performance, film projection, music and mixed media.

VALIE EXPORT
Since the late 1960s Export has challenged the physical realities of moving-image media with works such as Tapp und Tastkino (1968), Cutting (1968), Abstract Film (1967/8)

STEREOVISION

EXPO '67 MONTREAL
Jeffrey Shaw shows Movie Movie a large-scale expanded cinema projection performance incorporating an inflatable and the architecture of the festival building. Also showing: 'Kinoautomat', the world's first 'interactive movie' conceived by Radúz Činčera for the Czechoslovak Pavilion.

FILM PERFORMANCE
A vital aspect of expanded cinema combining the technologies of mediation (and absence) associated with filmmaking with the physical presence of the body (see also: FILMAKTION) Marilyn Halford, Hands Knees and Boompsa Daisy (1974) Robert Whitman, Shower Piece / Prune Flat (1965), Tony Conrad, Bowed Film, (1974) Jeff Keen — combining many different elements, Keen created a feverish and unpredictable form of film performance in which the 8mm camera acts as a pen and the projector as a gun. Keen created the ongoing Theatre of Dr Gaz, which incorporated live 8mm and 16mm multiple projections, blowtorches and paint, Birgit & Wilhelm Hein, Film und Live Show (1979–81) — Superman und Wonderwoman / From Here to Eternity (1979), Guy Sherwin, Man with Mirror (1975–2008), Ian Breakwell/Mike Leggett, Unword (1970–2003)

FILM INSTALLATION
Forms of gallery-based practice that develop in tandem with the experiments of expanded cinema challenging the context and durational quality of film and its relation to the space and time of reception. E.g. Paul Sharits, Epileptic Seizure Comparison (1976); Ron Haselden , MFV Maureen (1975); Tony Sinden, Cinema of Projection (1975); Michael Snow, Two Sides to Every Story (1974); David Dye, Unsigning for Eight Projectors (1972)

VIDEO ART AND INSTALLATION
Occupies a crucial position in the history of expanded cinema. This is especially true in the UK where artists such as David Critchley, Tamara Krikorian, Stephen Partridge and David Hall explore the ontology of video technologies in their spatial, temporal and material elements. Also points to an important engagement with alternative cultural contexts such as television. Key early works in the UK include Tony Sinden / David Hall, 101 TV Sets (1975); David Hall, Progressive Recession (1975) and David Critchley, Trialogue (1977)

PETER WEIBEL
Creator of live projection events including Nivea (1968) and Action Lecture (1968)

VIDEO PERFORMANCE
The work of video performance artists such as Marina Abramović, Vitto Acconci, Dan Graham and Joan Jonas occupies an important position in the development of expanded cinema and its concerns with the immediacy and physicality of mediated environments.

'INTERMEDIA'
Master minded by Dick Higgins in New York during the late 1960s combining light shows, projections and live performance

FESTIVAL OF EXPANDED CINEMA, ICA JAN. 1976
Important event that positioned UK expanded cinema at the forefront 'of structural researches into process art' (Jonas Mekas) moving away from the psychedelic turn in US expanded cinema toward an 'emphasis on either the physical, spatial or temporal aspects [of cinema]... to facilitate a perceptual shift' (Deke Dusinberre). Includes work by artists such as Jeff Keen, Rob Gawthrop, Nicky Hamlyn, Lis Rhodes, Ian Kerr, Ian Breakwell, Marilyn Halford, Annabel Nicolson and Chris Welsby

TELEVISION INTERRUPTIONS
David Hall, 7 TV Pieces (1971) — Unannounced and un-credited, Hall's seven works interrupted BBC 2's Scottish broadcast as part of the Edinburgh Festival of that year. WGBH-TV in Boston collaborated with video artists to produce early forms of TV art in the US at the end of the 1960s. Gerry Schum created unannounced and uncredited broadcasts in Germany such as Land Art (1969). Joseph Beuys, Douglas Davies and Nam June Paik produced the Documenta 6 Satellite Telecast (1977) broadcasting live performances around the globe including Beuys' direct address to the public, elaborating on his utopian theories of art as 'social sculpture'.

CONCEPTUAL ART & SITE SPECIFICITY
Robert Smithson proposed building a cinema in a mine and projecting a film of the mine being excavated; Morgan Fisher's Screening Room (start date: 1968) is a film made in the space in which it's projected; Richard Long produced instructions for Walking a Straight 10 Mile Line Forward and Back Shooting Every Half-Mile (Dartmoor 1969) — and shot it.

HOUSEWATCH
A collaborative project combining installation, video, film and the urban environment in order to create what Tony Sinden has described as 'cinematic architecture for pedestrians.'

MARCEL BROODTHAERS
Section du Cinema (1971–72) (symptomatic of what Rosalind Krauss has called the 'post-medium condition') museum, gallery and cinema merge as a site of cultural and aesthetic archaeology

SURVEILLANCE TECHNOLOGIES

THE VIDEO SHOW, SERPENTINE GALLERY (SUMMER) 1975
Artists using closed circuit installations, performances, multiple screens, video monitors and video graphics continue expanded cinema's attack on the forces of television and other forms of media culture

POST-PUNK (US)
Practitioners such as Mike Kelley, Paul McCarthy, Tony Oursler and Laurie Anderson adopt many aspects of expanded cinema as part of a language of performance and video drawing on post-modern and popular culture as well as Modernist discourses

ARCHITECTURE AS MEDIA
With its roots, arguably, in the architectural and cinematic experiments of the Bauhaus this category would include such works as Dan Graham's pavilions and works by the UK group House Watch that challenged the relationship between social space and media.

VIDEO WALLS

PUNK & SUPER 8 MOVEMENT
In the UK, Derek Jarman experimented with the immediacy and lyricism of Super 8. In Spain, Pedro Almodóvar created Super 8 performances in night clubs in the wake of Franco's death

'CINEMA OF EXHIBITIONS'
A shift to using the gallery as a context for, on the one hand, deconstructing the identity process inscribed in iconic works of classical cinema, and on the other, of exhibiting the processes of film production as a form of media displacement. Associated with artists such as David Lamelas, Stan Douglas, Douglas Gordon and Pierre Hughe.

SCRATCH PERFORMANCE
Early to mid 1980s scratch video performances in UK nightclubs. Scratch artists such as the Duvet Brothers and Gorilla Tapes combine state-of-the-art video editing techniques with a subversive sense of détournement

INTERNATIONAL SYMPOSIUM OF SHADOWS (1996)
Returning to first principles, a loose group of 'shadow engineers' reconsider the darker and more primitive areas of projection, including Thomas Bartels Projecting Sculpture, Joost Rekveld's Installation 13 and the shadow performances of Loophole cinema.

IMMERSIVE ENVIRONMENTS
Works such as Gary Hill's Tall Ships (1992): 'an entirely silent, sixteen channel video installation that comes into being through the presence of a viewer; it is set up so that whoever walks into the darkened gallery triggers the projected figures hovering around the edge of the space to move towards them.'

INTERACTIVE
US artists Graham Weinbren and Roberta Friedman pioneered CD-Rom and video-disc-based interactive filmmaking in the 1980s and 1990s in which viewers are able to influence the narrative developments of intricate cinematic fictions.

CREATIVE PROJECTION & 'FILM ALCHEMY'
Contemporary artists from around the world (such as Jurgen Reble, Bruce McClure, Luis Recoder and Emma Hart) who work directly with the material of film and the mechanics of projection in order to create frenetic actions — proving that films are not so much produced as they are projected.

MULTI-SCREEN ENVIRONMENTS AND INSTALLATION
E.g. Jane & Louise Wilson, Gamma (1999), A Free and Anonymous Monument (2003)

MIRZA & BUTLER
Using multiple screens, double projections and site-specific 'resonances' Karen Mirza and Brad Butler continue expanded cinema's exploration of the relationship between film, social context and personal experience

VIRTUAL REALITY
"the most recent phase in the expression of the Pygmalion syndrome" — Malcolm Le Grice

ZKM FUTURE CINEMA
A 'Media Museum' and 'Institute for Visual Media' set up in Germany by Jeffrey Shaw and Peter Weibel, two prominent figures in the history of expanded cinema, that champions 'artistic, social and technological research into new forms of interactive digital media with an emphasis on the expansion of cinematic codes and techniques.'

CONTEMPORARY FESTIVALS / GROUPS
Kill Your Timid Notion (UK)
La Cellule d'Intervention METAMKINE (France)

IMAX

MEDIA ART

'INFORMATION ARCHITECTURE'
Increasingly sophisticated forms of display and multi-channel screens seamlessly adorn facades internally and externally where building, image and built surface blur into one another.

TELEVISION SATELLITE / CABLE COMMUNICATION TECHNOLOGIES

VJ EVENTS AND 'REAL TIME VISUAL PERFORMANCE'

INTERNET ART